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# INSTALLATION AND SERVICE MANUAL FOR THE ESCORT III, JUICE DISPENSER

## SPECIFICATIONS

### **DIMENSIONS:**

- |                      |                |          |
|----------------------|----------------|----------|
| • Width              | 14 1/16 inches | (357 mm) |
| • Depth              | 23 1/8 inches  | (587 mm) |
| • Height (with legs) | 26 1/2 inches  | (673 mm) |

### **WEIGHT:**

- |             |                       |
|-------------|-----------------------|
| • Shipping  | 152 pounds (68.95 kg) |
| • Empty     | 135 pounds (61.24 kg) |
| • Operating | 180 pounds (81.65 kg) |

### **ELECTRICAL REQUIREMENTS (Running):**

- |             |        |
|-------------|--------|
| • 115V/60Hz | 7 Amps |
|-------------|--------|

### **WATER REQUIREMENTS:**

- Minimum flowing pressure of 25 PSI (1.76 kg/cm<sup>2</sup>) at a flow rate of three (3) ounces (88.7 ml) per second.
- Connection 5/8 inch - 18 male flare (3/8 inch flare).

### **COMPRESSOR:** 1/3 HP

### **CONCENTRATE CONTAINER CAPACITY:**

- |  |  |
|--|--|
| • Left container                             | 128 ounces (3.79 Liters)                       |
| • Middle container                           | 106 ounces (3.14 Liters)                       |
| • Right container                            | 128 ounces (3.79 Liters)                       |
| • Concentrate container constant temperature | 35°F (1.7°C)                                   |
| • Ice bath water capacity                    | 320 ounces; 2.5 U.S. gallons (9.07 kg; 9.46 L) |
| • Ice bank                                   | 8.0 pounds (3.63 kg)                           |

### **DRINK CAPACITY:**

Four (4) five (5) ounce (148 cc) drinks per minute under 45°F (7.2°C) at 75°F (23.9°C) ambient inlet water.



*This manual supersedes Installation and Service Manual 28-0003/03, dated 01/30/03*



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## 1. INSTALLATION

### 1.1 RECEIVING

Each unit is completely tested under operating conditions and thoroughly inspected before shipment. At the time of shipment, the carrier accepts the unit and any claim for damage must be made with the carrier. Upon receiving units from the delivering carrier, carefully inspect carton for visible indication(s) of damage. If damage exists, have carrier note same on bill of lading and file a claim with the carrier.

### 1.2 UNPACKING

- A. Cut band and remove.
- B. Carefully remove top portion of carton by lifting up.
- C. Remove top inner carton pad from inside of packing box.
- D. Remove package containing four (4) legs (PN 81-0112) from drip tray.
- E. Lift unit by plywood shipping base and remove lower portion of carton.
- F. Remove plywood shipping base from unit by removing screws from bottom. This is best done by moving unit so that one side extends past edge of counter top or table, allowing access to screws on bottom of plywood shipping base.

#### **NOTE**

If unit is to be transported, it is advisable to leave unit secured to plywood shipping base.

- G. Assemble legs (PN 81-0112) to unit by tilting unit. *DO NOT LAY UNIT ON ITS SIDE OR BACK.*
- H. Inspect unit for concealed damage and if evident, notify delivering carrier and file a claim against same.
- I. Remove accessory kit of loose parts (listed below, with quantity in parenthesis) from drip tray.

- PN 05-0017 Flare Seal Washer (2)
- PN 22-0017 Brush (1)
- PN 54-0038 Dispensing Nozzle (2 or 3)
- PN 81-0301 Keys (for Key Switch) (2)
- PN 49-0226 Inlet Water Shut Off (1)

### 1.3 SELECTING COUNTER LOCATION

- A. Select a location close to a properly grounded electrical outlet and water supply that meet the requirements as listed in the SPECIFICATIONS (see Cover).
- B. Condenser air is drawn in on the bottom of the unit and discharged out the rear of the unit. A minimum of two (2) inches (5.08 cm) must be maintained between the back of the unit and the wall. Failure to maintain the proper clearance space will cause the compressor to overheat and result in premature compressor failure.

### 1.4 CONNECTING TO WATER SUPPLY

- A. Flush water supply line thoroughly.
- B. Remove drip tray by pulling up slightly and away from unit. Remove dispensing paddles by squeezing together at top and pull down.
- C. Remove splash plate by pulling bottom up slightly and then out from unit.

#### **CAUTION**

USE A BACKUP WRENCH TO PREVENT DAMAGE TO STRAINER.

- D. Connect the inlet water shut off to water inlet fitting on bottom of unit using a flare seal washer (PN 05-0017).
- E. Connect other end of the water tube assembly to water supply line using a flare seal washer. Open valve on water supply and check for leaks.
- F. Replace splash plate, drip tray and dispensing paddles.

### 1.5 FILLING UNIT WITH WATER

- A. Remove both lids from top of unit.

- B. Disconnect check valves (feed line) from top of concentrate containers, and remove concentrate containers from unit.
- C. Remove yellow plug from agitator deck.
- D. Using a funnel or tube, fill with water until water flows out of overflow hole into concentrate container compartment. The overflow water will drain into the drip tray.

**NOTE**

Facing the front of the unit, the overflow hole is in the rear wall of the concentrate container compartment.

- E. Replace yellow plug.

## 1.6 CONNECTING TO ELECTRICAL POWER

**WARNING**

**THIS UNIT MUST BE PROPERLY ELECTRICALLY GROUNDED TO AVOID POSSIBLE FATAL ELECTRICAL SHOCK OR SERIOUS INJURY TO THE OPERATOR. THE POWER CORD IS PROVIDED WITH A THREE PRONG GROUNDED PLUG. IF A THREE-HOLE GROUNDED ELECTRICAL OUTLET IS NOT AVAILABLE, USE AN APPROVED METHOD TO GROUND THE UNIT.**

**DO NOT USE EXTENSION CORDS WITH THIS UNIT. DO NOT "GANG" TOGETHER WITH OTHER ELECTRICAL DEVICES ON THE SAME OUTLET.**

Plug unit power cord into electrical outlet. Compressor and condenser fan motor will not begin running until five (5) minutes after the unit is energized. Agitator motor will run continuously.

## 1.7 PURGING UNIT OF AIR

- A. Raise front cover and turn key switch ON.
- B. Using a cup, actuate each dispensing paddle until a steady flow of water is obtained.
- C. Turn key switch OFF.

## 1.8 LOAD MINUTE PAKS®

- A. Remove lid over concentrate compartment.
- B. Minute Paks® must be completely thawed and thoroughly shaken before loading.
- C. Load each Minute Pak® per the flavor label on the front of the unit.
- D. Replace check valves (white elbow) in Minute Paks®, using a rotating movement while pushing down.
- E. Replace lid on top of unit.

## 1.9 PRIMING CONCENTRATE PUMPS

- A. Turn key switch ON.
- B. Depress the Sold Out Reset button.

**NOTE**

An initial eight (8) to ten (10) ounces (236.6 ml to 295.7 ml) of water will be dispensed before the concentrate/water mixture reaches the spout.

- C. Hold cup under spout and depress the dispensing paddle.

## 1.10 ADJUST CONCENTRATE TO WATER RATIO (°BRIX)

- A. Install dispensing nozzles.
- B. Inlet water is distributed to two (2) water regulators which supply water to the mixing spouts, independently of each other. They are marked LEFT and RIGHT, indicating the mixing spout they supply. On the ESCORT III, the LEFT also supplies the middle spout. Both regulators are preset at 25 PSIG (1.76 kg/cm<sup>2</sup>). With a proper water source, each spout will dispense approximately 1.25 ounces of water per second (36 ml/sec). When mixed with concentrate (5 to 1 ratio), the finished drink will be dispensed at 1.5 ounces per second (43 ml/sec).
- C. *There are **NO** select options on ESCORT III units.* These units are factory preset (electronically) for the spouts and ratios provided in Table 1 (see following page).

ESCORT III			
	Left	Middle	Right
Ratio	6:1	5:1	5:1
<p><b>NOTES:</b> Because the ratios are factory preset electronically, they are not exact and may require a slight adjustment at time of installation. This can be accomplished by using a refractometer as follows:</p> <ol style="list-style-type: none"> <li>1. Dispense a 5 or 6 ounce (147.9 to 177.4 ml) cup of product and discard.</li> <li>2. Dispense a 5 or 6 ounce cup (147.9 to 177.4 ml) of product and stir thoroughly.</li> <li>3. Using a refractometer read the °Brix. Adjust as necessary as explained in 1.10.D below and re-Brix.</li> </ol>			

### Factory PreSet Select, Ratio, Product

**Table 1**

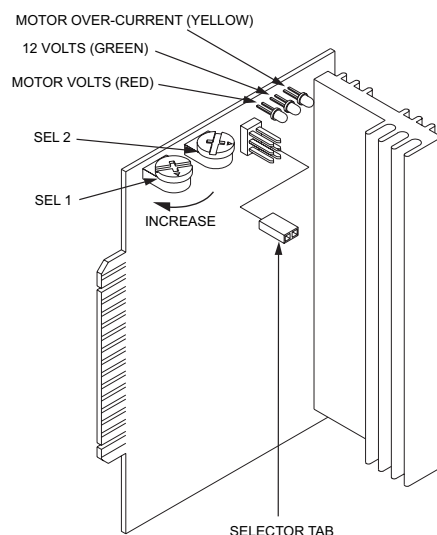
- D. To adjust the °Brix, loosen two (2) screws on face of control panel until control panel can be pulled partially out of control housing. Screws are captive and can be used to pull control panel from control housing.

- (1) Each spout of the unit is controlled by an independent Drive Printed Circuit Board (PCB) plugged into the Master PCB. The driver PCB has adjusting knobs which control the °Brix of the product selections.
- (2) To adjust the °Brix turn the adjusting control as follows:

Decrease °Brix.....Turn Counter  
(less concentrate) Clockwise

Increase °Brix.....Turn Clockwise  
(more concentrate)

- E. To set a unit that has not been factory preset for a product, adjust °Brix and change product plate on control panel.
- F. In some locations, the water supply pressure may be so low or may fluctuate so much that a 25 PSIG (1.76 kg/cm<sup>2</sup>) flowing water pressure cannot be maintained. As a result, the unit will not dispense a product at the proper °Brix. In this event, the regulated water pressure should be reduced below the local inlet water supply pressure so that a proper °Brix can be maintained. Reducing the regulated water pressure will reduce the finished product flow rate. Normally, the minimum recommended setting is 15 PSIG (1.06 kg/cm<sup>2</sup>) flowing. To reset the regulator, refer to Section 6.9, items K-Q.
- G. Readjust °Brix as necessary.
- H. Slide control panel into control housing and tighten screws finger tight. Be sure control panel is properly seated in control housing.



**DRIVER PC BOARD**

**Figure 1**

## 2. OPERATING UNIT

### 2.1 CHANGING PRODUCT

- A. Remove nozzle from spout and clean.
- B. Flush unit until only water is dispensed from spout (see Section 1.9).
- C. Remove lid from top of unit.
- D. Remove the Minute Pak® from the unit. Replace with new flavor.
- E. Replace lid and nozzle.

- F. Depress the Sold Out Reset button.
- G. Depress dispensing paddle with cup until a steady flow of pre-mixed product is obtained. Unit is now ready to dispense. Install nozzles and check °Brix (see Section 1.10).
- H. Change product plate on front cover to indicate new product.

**NOTE**

If the new product requires a different mixing ratio, see Section 1.10 (°Brix).

## **2.2 OPERATING ESCORT III JUICE DISPENSERS WITH SOLD OUT FEATURE**

### **A. New Package**

1. Turn key to "ON".
2. Remove front lid.
3. Load "Minute Pak®". *Thoroughly shake "Minute Pak®" before loading.*
4. Install check valve into package.
5. Press red "Reset" Button.
6. Replace front lid.
7. Prime pump by dispensing until product is dispensed.

### **B. Intermittent Lockout**

*Every precaution has been taken to produce a Sold Out Feature which will operate properly with all of the Minute Maid® products. However, it is possible that an individual machine may lockout inadvertently. Should the machine lockout while product remains, simply press the "Reset" button.*

*If the machine continues to lockout, check the condition of the concentrate tubes. If the tubes are heavily stained from the product, the tube(s) **must** be changed out.*

### **C. Test Procedure**

Should you desire to determine if the Sold Out Feature is working, you may perform the following procedure:

1. Load Product into machine.
2. Press "Reset" button.
3. Dispense for 20 continuous seconds.

**NOTE:**

The 20 second continuous dispense is *ONLY* required for testing.

4. The Sold Out Feature should now be armed. To test, remove the check valve from the concentrate package. Then dispense until lockout alarm sounds (this simulates an empty package).
5. When alarm sounds, press "Reset" button to return to monitoring condition.
6. If alarm does not sound, repeat test procedure. If alarm does not sound after repeating the test procedure several times, contact the Service Center.

### **D. Disabling of Sold Out Feature**

The Sold Out Feature can be disabled by pressing the "Flush" button three (3) times (in rapid succession). The dispenser will follow with three (3) short beeps.

### **E. Enabling of Sold Out Feature**

Press the "Reset" button to enable the Sold Out Feature. Dispenser will follow with three (3) short beeps.

## **2.3 CLEANING AND SANITIZING INSTRUCTIONS**

For optimum dispenser performance and highest drink quality, please follow the instructions listed below for cleaning your dispenser. The instructions are also shown on the inside front cover for the Escort Dispenser.

**CAUTION**

**DO NOT USE ANY POWDERS OR ABRASIVE CLEANING COMPOUNDS THAT WILL DAMAGE FINISH.**

### **A. Daily**

1. Flush each valve of dispenser until clear water flows from the nozzle.



2. Remove drip tray and cup rest. Wash drip tray and cup rest thoroughly with warm, soapy water using a mild detergent. Rinse thoroughly with clean, warm water and reinstall drip tray and cup rest to dispenser.
3. Wipe down dispenser to remove any product residue.

**WARNING**

**REMOVE SANITIZING SOLUTION FROM DISPENSER AS INSTRUCTED. RESIDUAL SANITIZING SOLUTION LEFT IN SYSTEM COULD CREATE HEALTH HAZARD.**

**CAUTION**

**DO NOT SOAK NOZZLES IN CHLORINE SOLUTION OVERNIGHT. THIS WILL CAUSE NOZZLES TO SWELL AND PLASTIC WILL BEGIN TO DETERIORATE.**

**B. Weekly**

1. Flush each valve of dispenser until clear water flows from the nozzle.
2. Turn off water supply to dispenser.
3. Remove lid and wash thoroughly with warm, soapy water using a mild detergent. Rinse thoroughly with clean, warm water.
4. Lift up on the check valve (white or yellow elbow) to remove it from the Minute Pak®.
5. Remove Minute Pak® from dispenser.
6. Remove nozzles and disassemble (see NOZZLE ASSEMBLY instructions). Wash thoroughly with warm, soapy water using a mild detergent. Rinse thoroughly with clean, warm water and replace. DO NOT SOAK NOZZLES IN CHLORINE SOLUTION OVERNIGHT. THIS WILL CAUSE NOZZLES TO SWELL AND PLASTIC WILL BEGIN TO DETERIORATE.
7. Fill the specially marked sanitizing container with 80 ounces of COOL chlorinated sanitizing solution (Diversol CX, or equivalent) minimum 100 PPM available chlorine, but not to exceed 200 PPM; replace sanitizing container in dispenser.
8. Replace check valve in sanitizing container.
9. Activate valve for two (2) minutes ensuring concentrate lines are full of solution. Let solution stand for five (5) minutes without dispensing.
10. Perform a second two (2) minute dispense and let stand for an additional five (5) minutes.
11. Activate valve until the sanitizing solution empties from the sanitizing container.
12. Remove check valve from sanitizing container, remove container, and pour out excess sanitizing solution.
13. Repeat for each valve.
14. Reinstall Minute Pak®, and replace check valves.
15. Run concentrate through valves to remove traces of sanitizing solution from the dispenser.

**NOTE**

Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product. *This is an NSF requirement.*

16. Remove drip tray and cup rest. Wash thoroughly with warm, soapy water using a mild detergent. Rinse thoroughly with clean, warm water.
17. Wipe the dispenser with a clean damp cloth, taking care to remove all product residue.
18. Replace drip tray, and cup rest.
19. Turn on the water supply to the unit.
20. Reinstall lid.
21. Prime dispenser by holding cup under spout and activating the valve until a concentrate/water mix is dispensed.

## **2.4 LIGHTED FRONT SECTION**

**A. Replacing Graphics in Lighted Front Section**

1. Turn the key to the "OFF" position, turn switch on inside of front cover to the "OFF" position, and unplug unit.
2. Open front cover and push the clear clips (protruding from the reflector) into the slots in the reflector. Return cover to the closed position.



3. Lean the outer lens (PN 05-1164) back far enough so that it can be removed from the front cover. Remove clear backing and remove old graphics. Insert new graphics into recess of lens, and replace backing sheet.
4. With lens horizontal, insert tabs into bottom of front cover and rotate lens to an upright position. Push lens in, until lens is flush with front cover and until the lens snaps into place. Be sure that the lens is properly seated.
5. Plug in the unit, open front cover and turn switch on the inside of the cover to the "ON" position.
6. Turn the key to the "ON" position, and return front cover to the closed position.

**B. Operating Instructions**

1. Plug unit in. If graphics do not light up, open front cover, and turn switch to the "ON" position.

**NOTE**

The key does not turn off the lighted front graphics. Graphics are controlled by the switch located on the inside of the front cover.

**3. PRINCIPLES OF OPERATION**

**3.1 WATER SYSTEM**

Inlet water is distributed through the strainer to the left and right regulators, which reduces the inlet water pressure to 25 PSIG (1.76 kg/cm<sup>2</sup>).

Water is fed from the regulator through stainless steel tubes (embedded in the insulation of the tank assembly) and into the copper water coil, where the water is chilled to below 40°F (4.4°C). Water is then fed past a vacuum breaker through a stainless steel tube (embedded in the insulation of the tank assembly) to the front of the tank assembly and into the water solenoid. When a valve is activated, the corresponding water solenoid opens allowing water to pass into the spout and mix with concentrate.

Each water system is completely independent of the other. On the **Escort III units**, products can be dispensed singularly or simultaneously through the right and either left or middle spouts without a change in °Brix. When the inlet water is disconnected from the unit, the vacuum breaker will open automatically allowing water to drain out of the unit, thus preventing a freeze up when transported or stored at ambient temperatures below 32°F (0°C).

**3.2 CONCENTRATE SYSTEM**

When the dispensing valve is activated, concentrate is drawn from the bottom of the concentrate container, up the integral dip tube and through the check valve and concentrate tube, to the inlet of the concentrate pump.

It is metered by volume and pumped into the spout where it mixes with the water. The temperature of the concentrate does not effect the °Brix as long as it is above 32°F (0°C). The volume output of the concentrate pump is controlled electronically and can be adjusted to change the °Brix.

**3.3 CONCENTRATE LOW LEVEL INDICATOR SYSTEM**

The dispenser is equipped with an infrared sensor on each concentrate tube that senses the difference in light density that is passed through the tube. The unit reads juice characteristics and obtains a measurement (Learn Mode). If the unit senses a change in density, indicating a bubble or lack of concentrate while dispensing, the unit will go into Lock-Out Mode. When the unit is in Lock-Out Mode, it will disable the valve and turn on the Sold-Out LED. It will also beep if you depress the dispense button while in Lock-Out Mode. To enable dispensing, reload the concentrate container and press the reset button. This will clear the lock-out and put the unit into Learn Mode.

**NOTE:**

The Lock-Out Mode can be cleared by cycling power (key switch). When power is restored the unit will not go into Learn Mode.

- A. If the flush switch is depressed, the unit will go into flush wait mode. In this mode the unit will not lock out. Nine seconds of dispensing [in three (3) second continuous intervals] will take the

unit out of Flush Wait Mode.

- B. If the valve does not dispense for over one hour, the unit will go into Inactivity Wait Mode. In this mode the unit will not lock out. It will stay in this mode until a three (3) second continuous dispense occurs.
- C. The unit enters Learn Mode when the reset switch is depressed. The unit will beep once when entering Learn Mode. (**Note:** If the reset switch is depressed and the unit does not beep, it is already in Learn Mode). This clears the lock-out (shuts off the red LED, disables audible alarm, and enables dispensing).
- D. Pre-learn dispense - The unit will wait for 15 seconds of dispensing [in three (3) second increments]. This delay ensures that concentrate is in the sensor region of the tube before learning the concentrate.
- E. Learn -The unit will "learn" the characteristics of whatever is in the sensor region of the tube when a dispense (of at least one second) occurs after the pre-learn dispense is finished.

**NOTE:**

If the flush button is pressed after the reset/learn button, the unit will have to clear the Flush Wait Mode before it will learn the concentrate. The Flush Wait Mode is cleared by three (3) dispenses of at least three (3) seconds each. Since the pre-learn dispense requires five (5) dispenses of at least three (3) seconds each, it should have no effect on the learn unless several seconds of dispensing occur in the pre-learn dispense mode before the flush switch is pressed. In a worst case scenario, it could take an additional nine seconds of dispensing before the learn occurs if the flush switch was pressed just before the pre-learn dispense was finished.

- F. The unit may be put into or out of Disable Lock-Out Mode by depressing the flush switch three (3) times in less than two (2) seconds. When entering/leaving Disable Lock Out Mode, the unit will beep three (3) times. In Disable Lock Out Mode, the dispenser will operate without the Low Level/Sold Out features.

### **3.4 ELECTRONIC CONTROL SYSTEM**

Electrical power is fed into the transformer cabinet assembly, which contains independent Class II energy limiting step down transformers.

Each transformer is protected by a resettable circuit breaker on the primary side of the transformer. Each transformer feeds 15.3VAC to a driver PCB which controls one spout of the unit. Each driver PCB is independent of the other. The driver PCB plugs into an edge connector of the control panel PCB. Failure of a transformer or driver PCB on one spout does not effect the operation of the other spout of the unit.

Current supplied to the various devices (e.g., solenoids, sensors, lights, pump motor, etc.) by the driver PCB does not exceed 15VDC. With the exception of the pump motor, any short circuit of one or more of the devices controlled by the driver PCB will cause the driver PCB to shut OFF and cease functioning. When the short circuit is corrected by repair or replacement of the faulty device, the driver PCB will automatically reset and begin functioning. This is also true of the pump motor, except that to reset the driver PCB, the key switch must be turned to the OFF position for 30 seconds and then turned back to ON.

When the dispensing valve is activated, the driver PCB activates the water solenoid and the pump motor. The electronic system continuously monitors the pump motor and maintains exact speed (°Brix) regardless of the load on the pump motor. °Brix is changed by turning the adjusting knob on the driver PCB as described in Section 1.10C.

### **3.5 DISPENSING PADDLE SYSTEM**

The dispensing paddle has an integrally sealed permanent magnet which activates the sensor behind the splash plate when the paddle is depressed. This causes the electronic system to activate the water solenoid and concentrate pump, allowing the unit to dispense product. The dispensing paddles are removable, without tools, for cleaning. Paddles can be removed by squeezing the top edges of each paddle together.

### **3.6 FLUSH SYSTEM**

When the flush switch is held in position, the electronic system opens the flush solenoid and allows

water to flow to the check valve on the concentrate container and simultaneously operates the concentrate pump. Water flows through the check valve, the concentrate pump, and the spout. The check valve positioned at the concentrate container prevents flush water from entering the concentrate container.

### 3.7 REFRIGERATION SYSTEM

An ice bank is formed and maintained on the copper tube evaporator located in the water bath compartment of the tank assembly. Water is continually circulated by the agitator motor across the ice bank and around the copper water coil. Water temperature is maintained at 32°F (0°C).

Because the water compartment and concentrate compartment form an integral aluminum die casting, the concentrate compartment is maintained at a constant 35°F (0°C) temperature. When a product is dispensed, water is drawn through the copper water coils and chilled. As the ice bank is depleted, the ice bank control senses that the ice is melting and causes the compressor and condenser fan motor to start. When the ice bank is rebuilt, the control shuts off the compressor and condenser fan motor.

The compressor and condenser fan motor will operate periodically, even though no drinks are being dispensed, in order to maintain the ice bank. If the unit is unplugged or power is disrupted while operating, the compressor will not restart for a period of time during which the refrigerant pressures equalize [approximately five (5) minutes]. This feature protects the compressor from premature failure.

## 4. RELOCATING OR SHIPPING UNIT

### 4.1 REMOVING AN OPERATING UNIT

- A. Perform FLUSH operation on each side of unit until a clean stream of water is being dispensed.
- B. Remove Minute Paks®.

#### **CAUTION**

IF UNIT IS TO BE TRANSPORTED OR STORED WHEN AMBIENT TEMPERATURE IS 32°F (0°C) OR LOWER, STEPS C AND D MUST BE PERFORMED TO PREVENT THE WATER SYSTEM FROM FREEZING AND DAMAGING THE UNIT. DO NOT USE CO<sub>2</sub> GAS TO PURGE WATER FROM UNIT AS IT WILL CAUSE A HEALTH HAZARD.

- C. Shut off inlet water supply. Disconnect inlet water tube from bottom of unit. About six (6) ounces (177.4 ml) of water will drain out of the unit as the vacuum breaker opens, allowing air into system.
- D. Depress each dispensing paddle. This allows additional air into the system and will cause a few more ounces (ml) of water to drain from unit.
- E. Turn key switch OFF.
- F. Unplug unit power cord from electrical outlet.
- G. Remove agitator deck (see Section 6.14), and using plastic tubing, siphon water out of ice bath compartment. It will be necessary to pour about 12 ounces (354.8 ml) of warm water (*do NOT use extremely hot water*) into the ice bath compartment to completely melt the ice bank. Drain the remaining water and replace agitator deck and secure with nuts.
- H. Remove drip tray and cup rest. Clean and reinstall. Wipe exterior surfaces of unit with a clean damp cloth.

### 4.2 TRANSPORTING UNIT

The best method of handling and transporting a unit is to remove the legs and secure the unit to a plywood shipping base. If it is to be handled and transported with the legs assembled to the unit, special care should be taken not to damage unit. *DO NOT LAY UNIT ON SIDE OR BACK.*

### 4.3 SHIPPING UNIT

If a unit is to be shipped by a common carrier, it must be secured to the plywood shipping base and repacked in the original carton with the inner packaging material. *For this reason, it is wise to retain the original packing material.*

## 5. PERIODIC MAINTENANCE

### 5.1 LUBRICATION

*All motors are lubricated for life and require no maintenance lubrication.*

### 5.2 CLEANING WATER STRAINER

- A. Remove splash plate.
- B. Close inlet water shut off valve.
- C. Remove plug from strainer on regulator assembly. Remove strainer screen.
- D. Clean strainer screen with water. Inspect strainer screen for holes or other deterioration. Replace, if appropriate.

#### **CAUTION**

**DO NOT OVER TIGHTEN STRAINER PLUG.**

- E. Reinstall cleaned or new strainer screen. Reinstall strainer plug.
- F. Open inlet water shut off valve.
- G. Reinstall splash plate.

### 5.3 CLEANING INLET AIR FILTER

#### **WARNING**

**FAILURE TO KEEP FILTER CLEAN WILL CAUSE A RESTRICTION OF AIR TO THE CONDENSER AND THEREBY CAUSE PREMATURE COMPRESSOR FAILURE.**

- A. Remove splash plate.
- B. Remove inlet air filter by removing spring retainers.
- C. Clean air filter with water.

#### **NOTE**

Filter should be cleaned at least every three (3) months, or more frequently if required.

- D. Squeeze excess water from filter, and reinstall air filter and spring retainer.
- E. Reinstall splash plate.

### 5.4 CLEANING CONDENSER

- A. Unplug unit power cord from electrical outlet.
- B. Remove splash plate.
- C. Remove fan guards (lower and upper).
- D. Remove condenser fan motor.
- E. Clean condenser with a small brush.
- F. Reinstall condenser fan motor, fan guards and splash plate.
- G. Plug unit power cord into electrical outlet.

### 5.5 CLEANING CONCENTRATE CONTAINER COMPARTMENT

#### **CAUTION**

**DO NOT USE ANY POWDER OR ABRASIVE CLEANING COMPOUNDS THAT WILL DAMAGE FINISH.**

Use only warm water and damp cloth.

## 6. REPAIR AND REPLACEMENT

### 6.1 COMPLETE FRONT PANEL REPLACEMENT

- A. Turn key switch OFF.
- B. Loosen both (2) captive screws on control panel and partially pull control panel out of the control housing.
- C. Disconnect all wiring harnesses by depressing tabs on the harness connector.
- D. Remove control panel from control housing.

### **CAUTION**

PLACE THE BAD PCB IN THE ANTISTATIC SHIPPING BAG. THE CONTROL PCB IS NOT FIELD REPAIRABLE AND MUST BE RETURNED TO LANCER CORPORATION FOR REPAIR. ANY ATTEMPT TO FIELD REPAIR WILL VOID ANY WARRANTY.

A PCB MUST BE PACKAGED IN A PROTECTIVE ANTISTATIC SHIPPING BAG WHEN HANDLED, STORED, TRANSPORTED OR SHIPPED. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE PCB.

- E. Remove driver PCBs from control panel, by pulling straight out.
- F. Assemble driver PCBs into new control panel.
- G. Partially replace control panel in control housing.
- H. Reconnect all harnesses to the control panel. Make sure connector tabs lock.
- I. Turn key switch ON.
- J. Adjust °Brix as required.
- K. Slide control panel into control housing and tighten both captive screws finger tight.

## **6.2 DRIVER PCB REPLACEMENT**

- A. Turn key switch OFF.
- B. Loosen both (2) captive screws on control panel and using screws, partially pull control panel out of control housing.
- C. Disconnect all wiring harnesses by depressing tabs on connector.
- D. Remove control panel from control housing.
- E. Remove driver PCB from control panel PCB by pulling straight out.
- F. Remove new driver PCB from protective antistatic shipping bag and install in control panel PCB. Package defective driver PCB in protective antistatic shipping bag.
- G. Partially replace control panel in control housing.
- H. Reconnect all harnesses to the control panel. Make sure connector tabs lock.
- I. Turn key switch ON.
- J. Adjust °Brix as required.
- K. Slide control panel into control housing and tighten both captive screws finger tight.

## **6.3 PADDLE SENSOR**

- A. Turn key switch OFF.
- B. Remove dispensing paddles and drip tray.
- C. Remove splash plate.
- D. Unplug sensor from harness.
- E. Loosen nut on back of sensor.
- F. Remove sensor from bracket.

### **NOTE**

Sensors are sealed units and cannot be repaired. If the sensor is shorted (burned out), the PCB will shut off automatically. When the sensor is replaced, The PCB will automatically reset.

- G. Replace with new sensor and adjust so that sensor face is about 1/8 inch (3.175 mm) from splash plate.
- H. Replace splash plate.
- I. Replace dispensing paddles and drip tray.
- J. Turn key switch ON.

## **6.4 CONCENTRATE PUMP AND MOTOR**

### **CAUTION**

THE MOTOR IS A FACTORY SEALED UNIT AND IS NOT FIELD REPAIRABLE. ANY ATTEMPT TO FIELD REPAIR WILL VOID WARRANTY.

- A. Replacement
  - (1) If concentrate pump will operate, depress FLUSH mode until a clear stream of water is dispensed.
  - (2) If concentrate pump will not operate, proceed to Step (3).

- (3) Turn key switch OFF.
- (4) Remove check valve from concentrate container by pulling up.
- (5) Remove spout by loosening nut (turn counter clockwise) and pulling spout down. **Do NOT lose O-Ring** between spout and threaded adaptor.
- (6) Remove elbow retainer.
- (7) Remove inlet elbow by pulling up.
- (8) Remove concentrate pump by pulling out of pump support.
- (9) Replace new concentrate pump by reversing above procedure.
- (10) Turn key switch ON.
- (11) Readjust °Brix (see Section 1.10).

#### B. Repair

- (1) Remove the four (4) knurled screws on top of pump face plate.
- (2) Remove face plate and clean with water. If any inner surface exposed to the impeller is grooved or severely worn, replace the damaged parts.
- (3) Remove the impeller and clean with plain water. **DO NOT use pliers or other sharp instruments to remove the impeller.** Be careful not to scratch or deface inner concentrate pump body. If the impeller is cut, nicked or severely worn, replace.

#### **CAUTION**

IF CONCENTRATE PUMP IS NOT PROPERLY ASSEMBLED, IT CAN CAUSE A PUMP MOTOR OVERLOAD CONDITION AND WILL CAUSE THE CONTROL PCB TO GO INTO OVER CURRENT LIMITING (YELLOW LED ON WHILE TRYING TO DISPENSE).

- (4) Remove four (4) Phillips screws and separate concentrate pump body from motor to expose the shaft seal (black). The shaft seal must be replaced if the inner cylindrical (seal/shaft) surface and/or the outer cylindrical (seal/pump body) surface is grooved, scratched or excessively worn. If the seal has failed prematurely, it is advisable to replace both the seal and pump body. Clean only with plain water.

- a. To replace seal, carefully press seal out of body.

#### **CAUTION**

USE ONLY LANCER LUBE. USE OF OTHER GREASE, LUBRICANT OR COMPOUNDS MAY CAUSE OFF TASTE, ODOR AND/OR DAMAGE TO UNIT AND WILL VOID WARRANTY.

- b. Lubricate inside and outside of seal with Lancer lube (PN 15-0046). Press seal into body until completely seated.
- (5) Coat motor shaft and boss at base of shaft with Lancer lube. Carefully assemble pump body to motor using a rotating motion so as not to damage shaft seal. Replace screws and tighten evenly, 1/4 turn after finger tight. **DO NOT TIGHTEN EXCESSIVELY.**
- (6) Install impeller, being careful to flex all impeller arms in a clockwise fashion (motor shaft will rotate counter clockwise). Align the flats on the shaft and impeller and gently push impeller onto the shaft until seated against back pump body surface. Operate the concentrate pump (by using a test kit or depressing the paddle with the water supply OFF) for a few seconds to properly seat the impeller.
- (7) Replace o-ring, face plate and four (4) knurled screws. The sequence in which the screws are tightened should be in a rotational manner, so that the face plate is tightened evenly (in order of 3, 6, 9, and 12 o'clock positions). **DO NOT TIGHTEN EXCESSIVELY.**

### 6.5 PUMP SUPPORT

#### **WARNING**

**DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.**

- A. Depress FLUSH mode and the dispensing paddles until a clear stream of water is dispensed.
- B. Remove check valve from concentrate container.
- C. Remove control panel (see Section 6.1).
- D. Remove drip tray, dispensing paddles, and splash plate.

- E. Remove spout and concentrate pumps.
- F. Remove four (4) screws attaching pump support to frame.
- G. Remove pump support by pulling forward. Disconnect electrical connectors from pump support.
- H. To assemble, reverse above procedure.

## 6.6 CONTROL PANEL AND HOUSING

### **WARNING**

**DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.**

- A. Remove pump support (see Section 6.5).
- B. Remove main wiring harness from inside control housing by unscrewing connector.
- C. Remove four (4) screws attaching control housing to frame (second and third on each flange of control housing.)
- D. Pull control housing forward and feed 16 pin connector and harness through housing.
- E. To assemble, reverse above procedure.

## 6.7 FLUSH SOLENOID VALVE

- A. Turn key switch OFF.
- B. Close inlet water shut off valve.
- C. If coil is defective, remove wiring harness by pulling off quick connect terminals. Replace coil and reassemble.
- D. If solenoid valve is defective, remove plastic tubes (inlet and outlet) by loosening tube fitting nuts.
- E. Remove two (2) screws attaching solenoid valve bracket to tank assembly.
- F. Remove two (2) screws attaching solenoid valve to bracket.
- G. Replace solenoid valve by reversing above procedure.

### **NOTE**

If the coil is shorted (burned out), or a short exists for any other reason in the +12VDC solenoid wiring, the control PCB will shut off automatically (Green LED OFF). When the short is removed (repaired), the control PCB will automatically reset.

## 6.8 WATER SOLENOID VALVE

### **WARNING**

**DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.**

- A. Turn key switch OFF.
- B. Close inlet water shut off valve.
- C. Remove pump support (see Section 6.5).
- D. If solenoid is leaking, remove nut on end of coil and remove coil. Unscrew armature housing and remove spring and armature. Check for foreign matter or wear. If a foreign material is present, open water supply and flush. Reassemble.
- E. If coil is defective, remove wiring harness by pulling off quick connect terminals. Replace coil and reassemble.

### **CAUTION**

**SOLENOID ASSEMBLY IS NOT NORMALLY FIELD REPAIRABLE. INLET AND OUTLET ADAPTERS MUST BE FACTORY ASSEMBLED TO SOLENOID TO OBTAIN PROPER POSITIONING AND OVERALL LENGTH.**

- F. If solenoid valve is defective, replace as follows.
  - (1) Remove adaptor from solenoid by pulling out.
  - (2) Loosen compression nut on inlet side of solenoid assembly. Use a backup wrench.
  - (3) Reassemble new solenoid assembly. Tighten compression nut 1/4 turn after finger tight. *USE A BACKUP WRENCH.*
  - (4) Connect wiring harness to solenoid assembly.
- G. Assemble adaptor assembly to pump support. Make sure hex portion of adaptor assembly is properly seated in back of pump support. Lubricate o-rings on adaptor.



- H. Assemble in reverse order.
- I. Reinstall and secure pump support on unit with four (4) screws.
- J. Reinstall concentrate pump, spout and inlet elbow fitting.
- K. Turn key switch ON.
- L. Check °Brix as required (see Section 1.10).
- M. Slide control panel into control housing and tighten both captive screws finger tight.

## 6.9 REGULATOR ASSEMBLY

- A. Unplug unit power cord from electrical outlet.
- B. Remove drip tray, dispensing paddles and splash plate.
- C. Close inlet water shut off valve.
- D. Remove tube assembly from inlet of regulator assembly. *USE A BACKUP WRENCH TO PREVENT DAMAGE TO STRAINER.*
- E. Loosen nuts on outlet fitting.
- F. Remove nut on mounting bracket.
- G. Remove regulator assembly.
- H. Repair or replace defective parts. Use approved thread sealant.
- I. Replace regulator assembly and connect inlet water shut off, being careful to include flare seal washer.
- J. Tighten nuts on copper outlet tube 1/4 turn, after finger tight. Open inlet water shut off valve and check for leaks.
- K. Remove cap on test connection on bottom of repaired or new regulator and connect test gauge.
- L. Replace dispensing paddle.
- M. Turn key switch ON.
- N. Dispense one (1) six (6) ounce (177.4 ml) drink and discard. Set regulator at 25 PSIG (1.76 kg/cm<sup>2</sup>) while activating the dispensing paddle.
- O. Remove test gauge and replace test connection cap.
- P. Reassemble unit.
- Q. Check °Brix and adjust as necessary (see Section 1.10).

## 6.10 VACUUM BREAKER

- A. Close inlet water shut off valve.
- B. Remove lid over agitator deck.
- C. Remove vacuum breaker by loosening adaptor nut on top side of tank assembly.
- D. Remove cap from end of vacuum breaker.

### **CAUTION**

USE ONLY LANCER LUBE. USE OF OTHER GREASE, LUBRICANT OR COMPOUNDS MAY CAUSE OFF TASTE, ODOR AND/OR DAMAGE TO UNIT AND WILL VOID WARRANTY.

- E. Inspect umbrella check valve and o-rings. Replace as necessary and reassemble. Lubricate o-rings only with Lancer lube.
- F. Open inlet water shut off valve and check for leaks.
- G. Dispense several drinks while observing vacuum breaker. *NO WATER SHOULD COME OUT OF HOLE ON END OF VACUUM BREAKER CAP.*

## 6.11 TRANSFORMER CABINET ASSEMBLY

### **WARNING**

**DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.**

- A. Remove drip tray, dispensing paddles and splash plate.
- B. Unplug both wiring harnesses from back side of transformer cabinet assembly.
- C. Remove fan shroud.
- D. Remove cover from transformer cabinet assembly by pulling plungers and lifting off.
- E. Loosen nuts at base of transformer cabinet assembly.
- F. Replace defective transformer(s).
- G. To assemble, reverse above procedure.

## 6.12 ELECTRONIC ICE BANK CONTROL

### **WARNING**

**DISCONNECT FROM POWER SOURCE BEFORE BEGINNING THIS PROCEDURE.**

- A. Remove two screws retaining Rear Lid over Agitator Deck and remove Lid.
- B. Remove cover from electronic ice bank control.
- C. Disconnect ice bank probe lead from control board.
- D. Remove three leads from ice bank control, *noting which lead goes to the Junction Box (HOT IN) and which lead goes to the Compressor (HOT OUT)*. The third lead goes to Agitator Motor. The lead going to the Compressor is on Pin 1 of the Agitator/IBC connector and the lead going to the Junction Box is on Pin 3 (see Wiring Diagram, Section 9.1, Page 22).
- E. Remove the screws holding the ice bank control bracket to the Agitator deck and remove the control. Save screws for reinstallation.
- F. Remove one screw holding the bracket on the replacement electronic ice bank control housing and loosen the other. Spin the bracket 90°, reinstall screw, and tighten both screws.
- G. Mount new control to the Agitator Deck, using the screws removed in Step E.
- H. Remove the cover of the replacement control. Connect lead from Compressor to screw terminal marked "HOT OUT". Connect lead from Junction Box and Agitator Motor to terminal marked "HOT IN" (see Wiring Diagram, Section 9.1, Page 22).
- I. Plug the Probe Lead into the connector on the PCB.
- J. Check all connections, and install Control Housing Assembly Cover. Tie all leads together, ensuring that all leads are clear of any rotating equipment.
- K. Reconnect to power source. When power is supplied to the EIBC, there is a five minute delay before Compressor start-up. The Power Indicator Lamp should be illuminated and visible through the Control Housing Assembly Cover. When the Compressor starts, the Power Indicator Lamp will turn off.
- L. Replace Rear Lid over Agitator Deck and the two screws.
- M. Conduct operational check of unit.

## 6.13 AGITATOR MOTOR

### **WARNING**

**DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.**

- A. Remove lid over agitator deck.
- B. Unplug wiring harness from agitator deck.
- C. Remove four (4) screws holding agitator motor bracket to agitator deck.
- D. Disconnect agitator motor from wiring harness and remove.
- E. Inspect propeller to be sure no blades are broken. Remove and replace propeller if damaged.
- F. Replace agitator motor and propeller by reversing above procedure.

## 6.14 AGITATOR DECK

### **WARNING**

**DISCONNECT FROM POWER SOURCE BEFORE BEGINNING THIS PROCEDURE. WATER BATH MUST BE DRAINED AND ICE BANK MUST BE COMPLETELY MELTED.**

- A. Remove two screws retaining Rear Lid over Agitator Deck and remove Lid.
- B. Remove cover from electronic ice bank control.
- C. Disconnect ice bank probe lead from control board.
- D. Disconnect wire harness from Agitator Deck.
- E. Remove foam plug from hole around ice bank probe lead.
- F. Remove two (2) nuts holding Agitator Deck to tank assembly.
- G. Lift Agitator Deck out of unit.
- H. Installation is reverse of removal.

## 6.15 WATER COIL CAGE ASSEMBLY

### **WARNING**

**DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.**

- A. Close inlet water shut off valve.

- B. Remove agitator deck (see Section 6.14).
- C. Remove water from ice bank compartment.
- D. Loosen tubing nuts on water coil.
- E. Remove four (4) nuts holding cage assembly to bottom of tank.
- F. Remove cage assembly from tank.
- G. Remove defective water coil from cage assembly.
- H. Reassemble cage assembly in tank by reversing procedure. Tighten water coil tubing nuts 1/4 turn after finger tight.
- I. Open inlet water shut off valve and check for leaks.
- J. Refill ice bank compartment to overflow port.
- K. Replace agitator deck and lid.

#### 6.16 FRONT COVER

##### **CAUTION**

CARE SHOULD BE USED WHEN HANDLING FRONT COVER SO AS TO NOT SCRATCH OR MAR SURFACE. WHEN CLEANING, USE ONLY DAMP CLEAN CLOTH.

- A. Lift front cover up so that it rests on top cover.
- B. Loosen two (2) wing nuts (*do not remove*) holding retainer to front edge of top cover.
- C. Slide retainer down.
- D. Pull front cover forward and remove.
- E. To reassemble, reverse procedure.

#### 6.17 TOP COVER

- A. Flush both sides of unit.
- B. Turn key switch OFF.
- C. Remove both lids.
- D. Remove front cover.
- E. Remove check valves from concentrate tubes.
- F. Remove concentrate containers.
- G. Loosen three screws (*do not remove*) holding top cover to frame at **front** of unit.
- H. Loosen three screws (*do not remove*) holding top cover to frame at **rear** of unit.
- I. Lift top cover up and off unit.
- J. To reassemble, reverse the above procedures.

#### 6.18 WRAPPER

##### **WARNING**

**DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.**

- A. Remove front cover (see Section 6.16) and top cover (see Section 6.17).
- B. Remove drip tray, dispensing paddles and splash plate.
- C. Remove eight (8) screws on front of unit [four (4) on each side]. Locations are as follows.
  - (1) Top and bottom in flange of control housing.
  - (2) Two (2) in wrapper below pump support.
- D. Spread wrapper at front of unit slightly on each side in order to clear frame. Push wrapper toward back of unit until wrapper is free of frame.

##### **NOTE**

It is not necessary to remove control housing and pump support when removing wrapper.

- E. To reassemble, reverse above procedure being sure that cutout for power cord in rear of wrapper seats properly. Clean only with damp clean cloth or approved non-abrasive spray or liquid stainless steel cleaner.

#### 6.19 CONDENSER FAN MOTOR

##### **WARNING**

**DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET.**

- A. Disconnect fan motor electrical cord from junction box.

- B. Remove four (4) screws holding fan guards.
- C. Remove four (4) nuts holding fan motor bracket to base of unit and remove from unit.
- D. Remove fan motor from bracket.
- E. Remove fan blade from fan motor. *Do NOT bend fan blade.*
- F. Clean condenser with a brush.
- G. To reassemble, reverse above procedure.

## 7. TROUBLESHOOTING (Causes are listed in order of probability.)

<u>TROUBLE</u>	<u>CAUSE</u>	<u>REMEDY</u>
<b>7.1</b> No water or concentrate on either side, or no power.	<ul style="list-style-type: none"> <li>A. Key switch OFF.</li> <li>B. Unit not connected to electrical outlet.</li> <li>C. Both electrical circuit breakers on control box assembly tripped.</li> <li>D. Power supply electrical breaker tripped or fuse blown.</li> <li>E. Wiring harnesses not connected to transformer cabinet assembly.</li> <li>F. Sold Out has locked out valves.</li> </ul>	<ul style="list-style-type: none"> <li>A. Turn key switch ON.</li> <li>B. Connect unit power cord to electrical outlet.</li> <li>C. Reset circuit breaker by depressing button on control box.</li> <li>D. Reset breaker or replace fuse. If problem persists:               <ul style="list-style-type: none"> <li>1. Check unit for electrical short (wiring, compressor, fan motor, etc.).</li> <li>2. Electrical circuit overload. Switch to another circuit.</li> </ul> </li> <li>E. Connect wiring harness to transformer cabinet assembly.</li> <li>F. Check product levels and reset Sold Out.</li> </ul>
<b>7.2</b> No water or concentrate on one side only.	<ul style="list-style-type: none"> <li>A. Driver PCB not properly connected to control panel PCB.</li> <li>B. Driver PCB defective.</li> <li>C. Sensor not adjusted properly in relation to paddle.</li> <li>D. Sensor not connected to wiring harness.</li> <li>E. Defective sensor.</li> <li>F. Water solenoid valve defective and concentrate pump not properly installed in pump support or defective.</li> <li>G. Sold Out has locked out valves.</li> </ul>	<ul style="list-style-type: none"> <li>A. Connect driver PCB to control panel PCB.</li> <li>B. Replace driver PCB.</li> <li>C. Adjust sensor to move it closer to paddle.</li> <li>D. Connect sensor to wiring harness.</li> <li>E. Replace sensor.</li> <li>F. Repair or replace water solenoid valve and properly install concentrate pump in pump support or repair or replace same.</li> <li>G. Check product levels and reset Sold Out.</li> </ul>
<b>7.3</b> Water only - no concentrate.	<ul style="list-style-type: none"> <li>A. Check valve not properly installed in concentrate containers.</li> <li>B. Concentrate pump not properly installed in pump support.</li> <li>C. Concentrate pump defective.</li> <li>D. Check valve clogged.</li> <li>E. Air leak caused by defective o-ring(s) on check valve or pump inlet fitting.</li> <li>F. Frozen concentrate.</li> <li>G. Driver PCB defective.</li> <li>H. Concentrate tube kinked.</li> </ul>	<ul style="list-style-type: none"> <li>A. Push check valve all the way into concentrate tank.</li> <li>B. Properly install (push in) concentrate pump in pump support.</li> <li>C. Repair or replace concentrate pump.</li> <li>D. Remove and clean check valve.</li> <li>E. Replace o-rings on check valve or pump inlet fitting.</li> <li>F. Thaw concentrate.</li> <li>G. Replace driver PCB.</li> <li>H. Remove kink in tube.</li> </ul>
<b>7.4</b> Concentrate only - no water either side.	<ul style="list-style-type: none"> <li>A. Inlet water shut off valve turned OFF.</li> </ul>	<ul style="list-style-type: none"> <li>A. Turn inlet water shut off valve ON.</li> </ul>

*(Section 7.4 continued on next page)*

<b><u>TROUBLE</u></b>	<b><u>CAUSE</u></b>	<b><u>REMEDY</u></b>
<i>(Section 7.4 continued from previous page)</i>		
	B. Inlet water strainer dirty/clogged. C. Water coils frozen.  D. Water regulator not properly set and not passing water. E. Water solenoid valve not connected to wiring. F. Driver PCBs defective.	B. Remove strainer and clean. C. Replace ice bank control. Check umbrella check valve in vacuum breaker and replace if necessary. D. Connect test gauge to each water regulator and reset to proper pressure. E. Connect wiring harness to water solenoid valves. F. Replace driver PCBs.
<b>7.5</b> Concentrate only - no water on one side only.	A. Defective driver PCB. B. Water solenoid valve not connected to wiring harness. C. Defective coil on water solenoid. D. Defective water solenoid valve. E. Water coil frozen.  F. Water regulator not properly set and not passing water. G. Water regulator defective.	A. Replace driver PCB. B. Connect wiring harness to water solenoid valve. C. Replace coil.  D. Repair or replace water solenoid valve. E. Replace ice bank control. Inspect umbrella check valve in vacuum breaker and replace if necessary. F. Connect test gauge to water regulator and reset to proper pressure. G. Repair or replace water regulator.
<b>7.6</b> No flush water either side, system dispenses normally.	A. Flush solenoid valves not connected to wiring harness. B. Both driver PCBs defective. C. Both FLUSH switches bad.	A. Connect wiring harness to water flush solenoid valves. B. Replace driver PCBs. C. Replace front panel.
<b>7.7</b> Weak drink or inconsistent drink.	A. Swollen or pinched o-ring on check valve or pump inlet fitting. B. Vent holes surrounding opening on Minute Pak® are covered with paper left from package seal. C. Water leaking into concentrate container during "FLUSH" cycle due to missing ball in check valve.	A. Replace o-ring(s).  B. Remove any pieces of seal that are covering vent holes.  C. Replace ball and o-ring in check valve; dispose of diluted concentrate and refill concentrate container with fresh product.
<b>7.8</b> No water all valves.	A. Inlet water shut off valve turned "OFF". B. Water bath frozen due to bad ice bank control or refrigeration unit.	A. Check to make sure valve is "ON". B. Contact Phone Fix®. Turn water supply "OFF", unplug dispenser, and refrigerate concentrate.
<b>7.9</b> Water leaks at spout connection.	A. O-ring missing where spout connects to dispenser. B. Nut loose on spout.	A. Replace o-ring. B. Tighten nut.
<b>7.10</b> Drink will not shut off.	A. Spring missing or loose on paddle. B. Paddle broken.	A. Reinstall spring or replace paddle. B. Replace paddle.
<b>7.11</b> Cup does not fill completely or overflows (Portion Control Only).	A. Portion control settings out of program.	A. Reset portion control program. (See Portion Control Programming Instructions.)

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
<b>7.12</b> No flush water - one side only, system dispenses normally.	A. Defective driver PCB. B. Flush solenoid valve not connected to wiring harness. C. Defective coil on flush solenoid valve. D. Defective flush solenoid valve. E. Defective flush switch.	A. Replace driver PCB. B. Connect flush solenoid valve to wiring harness. C. Replace coil. D. Repair or replace flush solenoid valve. E. Replace front panel.
<b>7.13</b> Water drips from spout when drink is NOT being dispensed.	A. Defective water solenoid valve.	A. Repair or replace water solenoid valve.
<b>7.14</b> Water leaking into concentrate container and/or concentrate tube.	A. Flush solenoid valve leaking. B. Check valve defective.	A. Repair or replace flush solenoid valve. B. Repair or replace check valve.
<b>7.15</b> Water leaking into concentrate container during FLUSH cycle.	A. Check valve leaking.	A. Repair or replace check valve.
<b>7.16</b> Concentrate leak under dispenser.	A. Containers overfilled or concentrate poured on check valves causing concentrate to run down tubing into base of dispenser.	A. Remove drip tray. Remove splash plate (Panel behind paddles). Clean up concentrate residue in bottom of dispenser.
<b>7.17</b> Air leaking into concentrate tube and/or concentrate pump.	A. Air leaking into check valve from flush and/or concentrate tube. B. Air leaking into pickup tube of concentrate container. C. Air leaking into elbow, D. Air leaking into concentrate pump at elbow. E. Air leaking into concentrate pump.	A. Push tube onto check valve. Replace tube if necessary. B. Replace two o-rings on exterior of check valve. C. Push concentrate tube onto elbow. Replace tube if necessary. D. Replace two o-rings on elbow. E. 1. Replace face plate o-ring. 2. Replace seal in concentrate pump body.
<b>7.18</b> Ratio cannot be adjusted low enough (or °Brix high enough).	A. Regulated water pressure too high. B. Concentrate pump defective. C. Driver PCB defective. D. Air leaking into concentrate tube. E. Water leaking into concentrate container. F. Defective regulator.	A. Use test gauge and adjust water pressure to 25 PSIG (1.76 kg/cm <sup>2</sup> ). B. Repair or replace concentrate pump. C. Replace driver PCB. D. Refer to Section 7.17. E. Refer to Sections 7.14 and 7.15. F. Repair or replace regulator.
<b>7.19</b> Ratio cannot be adjusted high enough (or °Brix low enough).	A. Regulated water pressure too low. B. Water strainer clogged. C. Defective regulator. D. Defective or clogged water solenoid valve. E. Driver PCB defective.	A. Use test gauge and adjust water pressure to 25 PSI (1.76 kg/cm <sup>2</sup> ). B. Clean strainer. C. Repair or replace regulator. D. Repair or replace water solenoid valve. E. Replace driver PCB.
<b>7.20</b> °Brix varies from drink-to-drink.	A. Inlet water supply pressure and/or flow too low. B. Use of other equipment on same water supply causes water supply pressure and flow to vary.	A. Correct water supply must be made available. B. Remove other equipment from water supply or provide alternate water supply.

*(Section 7.20 continued on next page)*

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
<i>(Section 7.20 continued from previous page)</i>		
	C. Defective driver PCB. D. Defective concentrate pump. E. Frozen lumps of concentrate in concentrate container. F. Check valve clogged. G. Air leaking into concentrate tube. H. Water leaking into concentrate container. I. Defective water regulator.	C. Replace driver PCB. D. Repair or replace concentrate pump. E. Defrost concentrate. F. Clean check valve. G. Refer to Section 7.17. H. Refer to Sections 7.14 and 7.15. I. Repair or replace regulator.
<b>7.21</b> Concentrate low level indicator ON, but concentrate container still has concentrate remaining.	A. Sensor needs resetting. B. Defective driver PCB. C. Sensor on concentrate tube dirty and not making contact. D. Sensor wiring harness not connected. E. Concentrate tubes badly stained. F. Faulty sensor. G. Product has stratified.	A. Press RESET button on top of control box. B. Replace driver PCB. C. Clean sensors with damp cloth. D. Connect. E. Replace concentrate tubes. F. Replace sensor. G. Remove Minute Pak® and shake.
<b>7.22</b> Vacuum breaker leaks water out of end.	A. Umbrella check valve defective.	A. Replace umbrella check valve.
<b>7.23</b> Water continually overflows from ice bank compartment into concentrate compartment and into drip tray.	A. Machine just installed. Small amount of overflow is normal as ice forms. B. Loose or defective water coil.	A. Condition is normal. Should stop when dispenser refrigeration cycles "OFF". b. Turn water supply "OFF" and contact Phone Fix® for service dispatch.
<b>7.24</b> Compressor starts and continues to run until freeze up and will NOT cut off.	A. Faulty ice bank control.	A. Replace ice bank control.
<b>7.25</b> Warm drinks.	A. Hot incoming water supply (from HOT water supply or heater). B. No ice bank, defective ice bank control. C. Low refrigerant supply. D. No ice bank; defective condenser fan motor. E. No ice bank; compressor does not run or runs for a few minutes and stops. F. Casual drink. Product warming in lines between use. G. Product warming in hospital hose assembly.	A. Switch to cold water supply. B. Replace ice bank control. C. Repair leak and recharge. D. Replace condenser fan motor. E. Refer to Sections 7.26 - 7.30. F. Check temperature on second drink. Product temperature should be 38-44°. G. Draw 3-4 drinks and recheck temperature.
<b>7.26</b> Compressor does NOT start (no hum). Condenser fan motor does not run and no ice bank.	A. Power supply electrical breaker tripped or fuse blown.	A. Reset breaker or replace fuse. If problem persists: 1. Determine reason and correct. 2. Electrical circuit overloaded; switch to another circuit.

*(Section 7.26 continued on next page)*



<b><u>TROUBLE</u></b>	<b><u>CAUSE</u></b>	<b><u>REMEDY</u></b>
<i>(Section 7.26 continued from previous page)</i>		
	B. Defective ice bank control. C. Improper or loose wiring. D. Low voltage.	B. Replace ice bank control. C. Correct wiring. Refer to wiring diagram. D. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.
<b>7.27</b> Compressor does NOT start (no hum), no ice bank, but condenser fan motor runs.	A. Defective compressor relay or overload. B. Defective compressor. C. Improper or loose wiring. D. Low voltage.	A. Replace compressor relay or overload. B. Replace compressor. C. Correct wiring. Refer to wiring diagram. D. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.
<b>7.28</b> Compressor does NOT start, but hums.	A. Improper or loose wiring. B. Low voltage. C. Starting relay defective. D. Defective compressor.	A. Correct wiring. Refer to wiring diagram. B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. C. Replace starting relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure. D. Replace compressor.
<b>7.29</b> Compressor starts and switches off of start winding (will only run for a few seconds before internal overload switches Compressor OFF).	A. Improper or loose wiring. B. Low voltage. C. Starting relay defective. D. Excessively high refrigerant high side pressure. E. Defective compressor.	A. Correct wiring. Refer to wiring diagram. B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. C. Replace starting relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure. D. This is normal if unit is unplugged from electrical outlet then immediately plugged back into electrical outlet before refrigerant pressure has time to equalize. After about 5 minutes, compressor will start automatically and run. E. Replace compressor.
<b>7.30</b> Compressor starts and runs a short time, but shuts off on overload.	A. Improper or loose wiring. B. Low voltage. C. Excessively high refrigerant high side pressure.	A. Correct wiring. Refer to wiring diagram. B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. C. <ol style="list-style-type: none"> <li>1. Defective condenser fan motor. Replace.</li> <li>2. Dirty condenser. Clean.</li> <li>3. Dirty intake air filter. Clean.</li> <li>4. Back of unit too close to wall. Move unit away from wall at least two (2) inches (5.1 cm).</li> </ol>

*(Section 7.30 continued on next page)*

<b><u>TROUBLE</u></b>	<b><u>CAUSE</u></b>	<b><u>REMEDY</u></b>
<i>(Section 7.30 continued from previous page)</i>		
	D. Plate running too hot. E. Defective compressor.	D. Refrigerant leak. Repair and recharge. E. Replace compressor.
<b>7.31</b> Select or low concentrate lights inoperative, but audible alarm is OK.	A. Driver PCB. B. Mother PCB.	A. Replace driver PCB. B. Replace front panel assembly.
<b>7.32</b> Front cover lamps do not light.	A. Switch "OFF". B. Lamps burned out.	A. Open front cover and turn lighted display switch to "ON" position. B. Replace lamps. (See "Replacing Lamps in Lighted Front Covers".)

## ***NOTES***

## 8. TROUBLESHOOTING USING PCB 12 VOLT (GREEN), MOTOR OVER CURRENT (YELLOW) AND MOTOR (RED) DIAGNOSTIC LIGHTS

The **red LED** indicates that the transformer, circuit breaker and the basic DC power supply system is operative. This unregulated DC voltage of 18V-22V is used for the pump motor voltage and the input to the +12VDC regulator on the main control PCB.

The **green LED** indicates the output of the 12VDC regulator is normal. This voltage is used for all solenoids and the PCB circuits. The 12V regulator can **SHUT DOWN** from excess current or excess temperature, but will automatically start operating again when the problem is removed. An example would be a shorted left dispense solenoid coil. The green LED would be on until the left paddle was depressed, which would cause the green LED to go **OUT** until the paddle was released. Left flush, right flush and right dispense would be normal and the green LED would be **ON** before and during dispense.

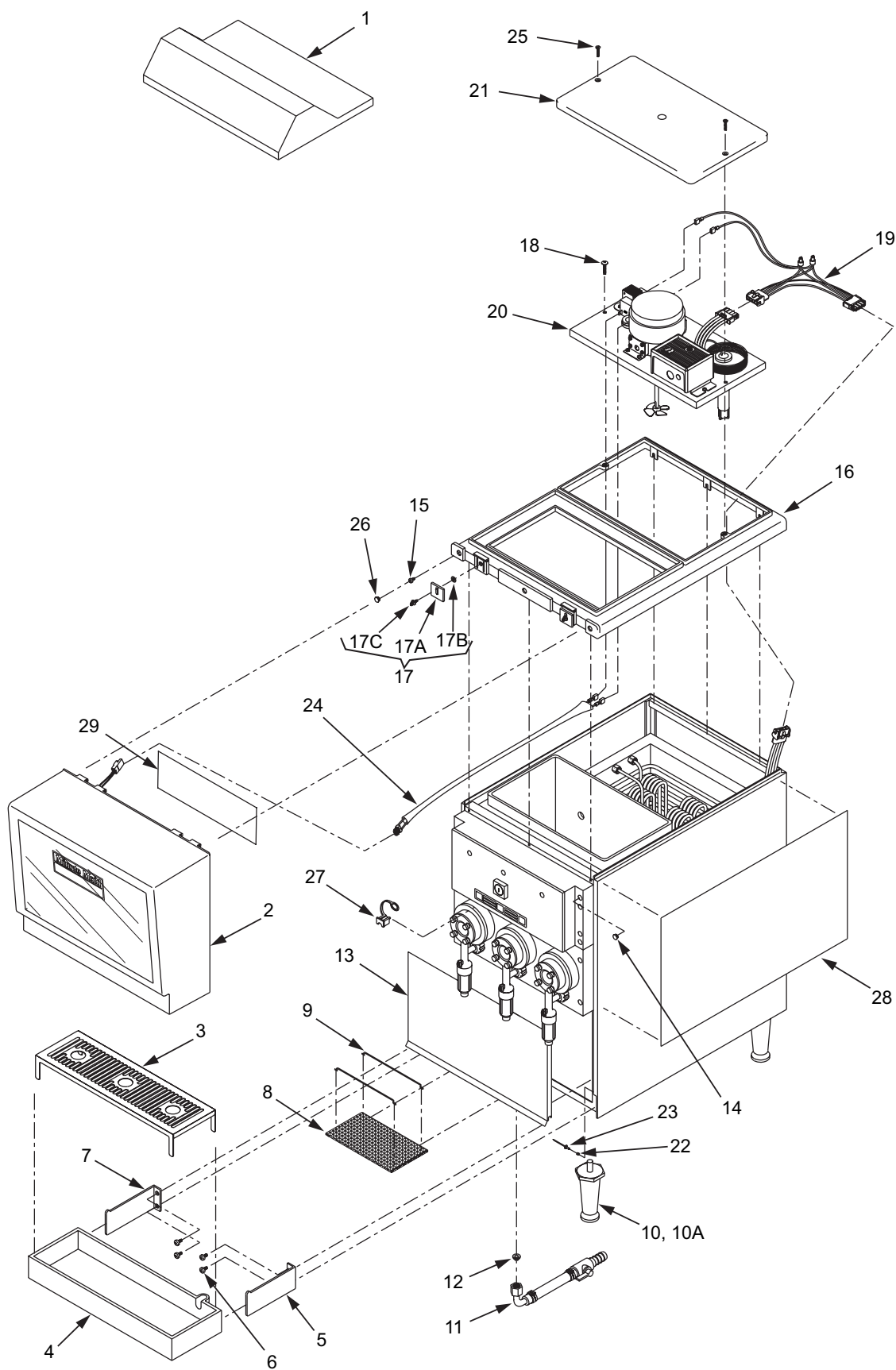
The **yellow LED** indicates a motor over current condition when lit. This could be caused by a faulty motor, pump or a grounded motor lead. Normally, the yellow LED will flash **ON** the instant a paddle is pushed, then go **OUT** immediately. This is caused by a high in-rush current to get the motor initially started.

The following are some typical diagnostic light conditions and the possible problems associated with these conditions. All conditions are with the key switch in the **ON** position and the power cord plugged in.

LIGHTS			STATUS	PROBLEM
GREEN	YELLOW	RED		
ON	OFF	ON	Key switch ON. Not trying to dispense product.	Transformer functioning. Driver PCB functioning.
OFF	OFF	ON	Key switch ON. Not trying to dispense product.	1. Defective driver PCB. 2. Shorted paddle sensor or solenoid wiring.
ON	OFF	OFF	Key switch ON. Not trying to dispense product.	Defective driver PCB.
OFF	OFF	OFF	Key switch ON. Not trying to dispense product.	1. Defective transformer, Driver PCB or key switch. 2. Breaker tripped on transformer cabinet. 3. Wiring harness not connected to transformer cabinet.
OFF	OFF	ON	Key switch ON, trying to dispense product or flush.	1. Shorted (defective) solenoid. 2. Wiring harness shorted connected to solenoid.
ON	OFF	OFF	Key switch ON, trying to dispense product or flush.	Defective driver PCB.
OFF	OFF	OFF	Key switch ON, trying to dispense product or flush.	1. Defective transformer, driver PCB or key switch. 2. Breaker tripped on transformer cabinet. 3. Wiring harnesses not connected to transformer cabinet.
ON	ON	ON	Key switch ON, trying to dispense product or flush, but concentrate pump does not operate. When paddle is released, the yellow light goes off.	1. Motor current too high. Replace motor pump assembly. 2. Motor wiring shorted in the harness. 3. Defective driver PCB.
ON	OFF	ON	Key switch ON, trying to dispense product but concentrate pump does not operate.	1. Wiring harness not connected to pump support. 2. Pump not properly seated in pump support panel. 3. Motor wiring open in harness. 4. Driver PCB defective.

## 9. ILLUSTRATIONS, PARTS LISTINGS, AND WIRING DIAGRAMS

### 9.1 FINAL ASSEMBLY

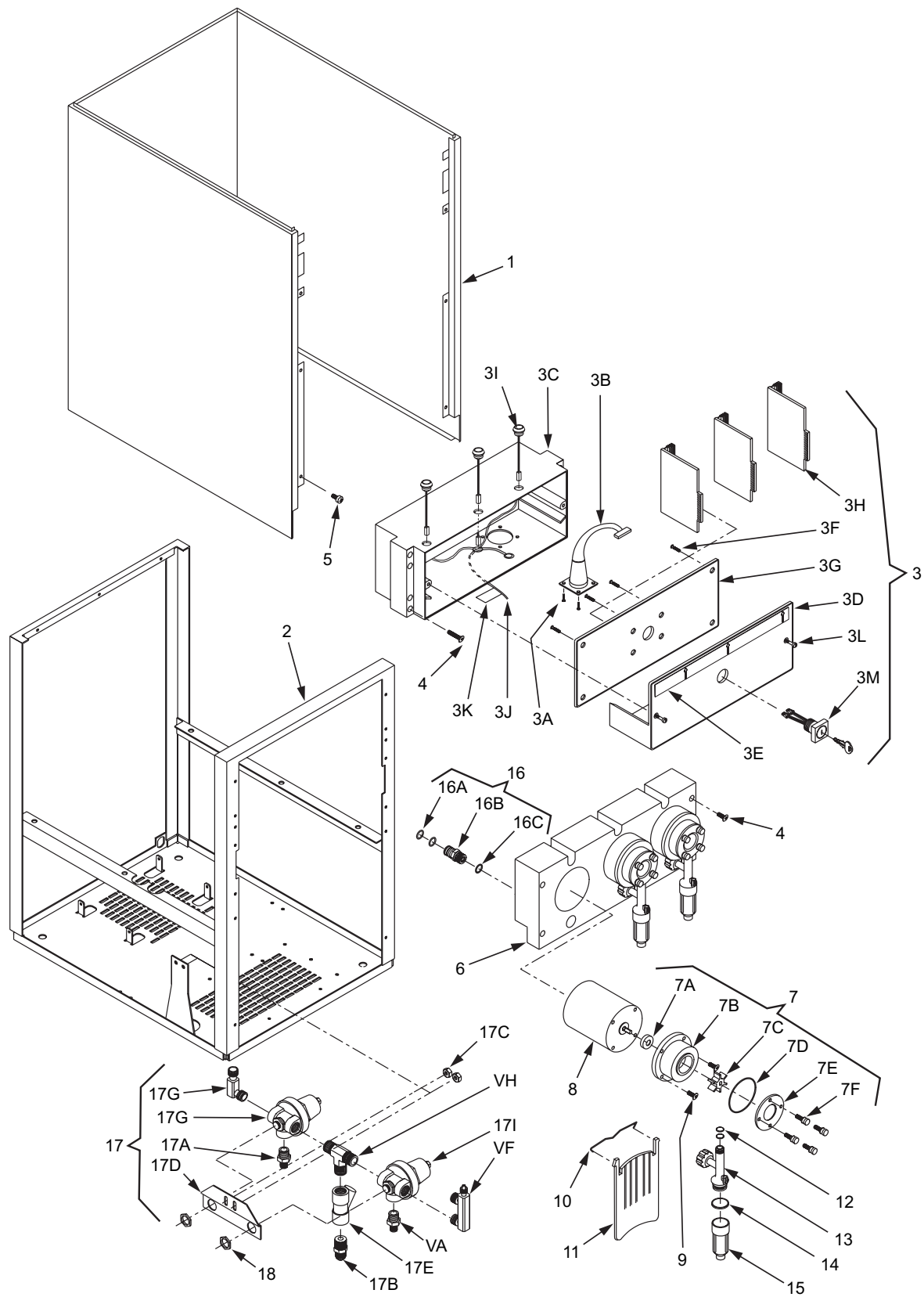


## 9.1 FINAL ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	05-1122	Lid, Large
R 2	82-1782	Front Cover Assy (See Section 10.6)
R 3	30-6214	Cup Rest
R 4	05-0148	Drip Tray
R 5	51-0295	Bracket, Right
R 6	04-0480	Screw
R 7	51-0294	Bracket, Left
R 8	50-0095	Filter
R 9	03-0074	Retainer
R 10	82-0156	Leg Accessory Kit
R 10A	81-0112	Leg
R 11	49-0226	Inlet Water Shut Off Assy
R 12	05-0017	Flare Seal Washer
R 13	51-0293	Splash Plate
R 14	05-0188	Hole Plug
R 15	04-0477	Screw
R -	82-0230/01	Top Cover Assy
R 16	05-0290/02	Cover
R 17	82-0151	Retainer Assy
R 17A	05-0186	Retainer
R 17B	04-0179	Washer
R 17C	04-0228	Thumb Screw
R 18	04-0222	Screw
R 19	52-1560	Harness, Jumper
R 20	82-0153/02	Agitator Deck Assy, 115V/60Hz (See Section 10.5)
R 21	05-0145/01	Lid, Small
R 22	04-0187	Spacer
R 23	04-0429	Rivet
R 24	52-1695	Harness, Power, Merchandiser
R 25	04-0784	Screw, 8 - 32, Flathead
R 26	05-0209	Hole Plug
R 27	05-0457	Retainer, Elbow
R 28	06-1233	Graphic Label, Right Side (Illustrated)
-	06-1232	Graphic Label, Left Side
-	06-1234	Graphic Label, Back
R 29	06-1384/01	Cleaning Instructions
R -	82-3430	Sanitizing Container

R in margin indicates new or revised material

## 9.2 PUMP/REGULATOR ASSEMBLY



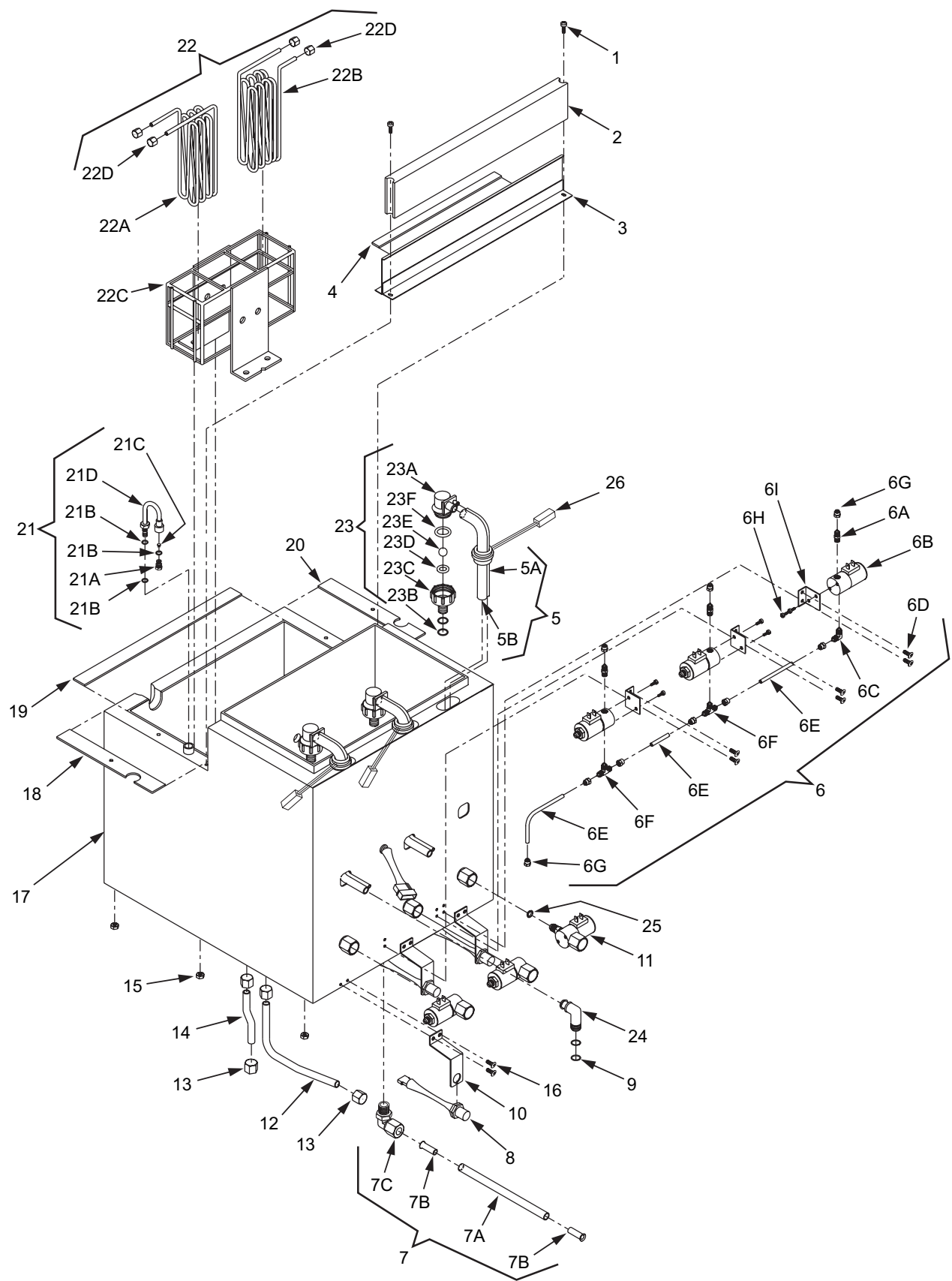
## 9.2 PUMP/REGULATOR ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	07-0192	Wrapper
2	23-0143	Frame Weld Assy
3	82-3373	Control Housing Assy
3A	04-0238	Screw, 8 - 16 x 0.375
3B	52-0384	Harness Assy, PCB
3C	05-0152-01	Control Housing, Escort III
3D	82-0246	Control panel Assy
3E	06-2272	Label, RESET, SOLD OUT
3F	04-0158	Screw, 4 - 20 x 0.375
3G	52-2748	PCB Assy, Main, Escort III, with Sold Out
<b>R</b> 3H	52-2772	PCB Assy, Motor Driver
3I	52-2279	Switch Assy, Reset
3J	52-2267	Harness Assy, Sensor Jumper
3K	06-2337	Label, ID, Jumper Harness
3L	04-0182	Screw, 8 - 32, Captive
3M	52-0423	Key Lock Switch
4	04-0481	Screw
5	04-0477	Screw
6	82-0238	Pump Support Assy
-	86-0004	Pump Assy, Complete with Motor (Items 7, 8, and 9)
7	82-0139	Pump Body Assy
7A	04-0166	Seal
7B	82-0179	Pump Body Sub-Assy
7C	05-0132	Impeller
7D	02-0090	O-Ring
7E	05-0134	End Cap
7F	04-0207	Thumb Screw
8	91-0013	Motor Assy
9	04-0169	Screw
10	03-0061	Spring
11	54-0019	Paddle Assy
12	02-0089	O-Ring
13	54-0020	Spout Assy
14	02-0109	O-Ring
15	54-0038	Nozzle Assy
16	17-0352	Solenoid Adapter Assy
16A	02-0099	O-Ring
16B	05-0150	Body
16C	02-0005	O-Ring
17	18-0200	Regulator Assy
17A	17-0405	Valve
17B	01-0111	Adaptor
17C	04-0297	Keps Nut
17D	07-0294	Bracket
17E	17-0486	Strainer
-	81-0413	Screen (For Item 17E)
17F	01-1106	Elbow
17G	01-1105	Elbow
17H	01-0495	Tee
17I	18-0201	Regulator, LH
17J	18-0202	Regulator, RH
18	04-0873	Nut
-	18-0207	Regulator Repair Kit (For Items 17I and 17J)
-	22-0028/01	Water Pressure Test Gauge Assy

**R** in margin indicates new or revised material



9.3 WATER/CONCENTRATE COMPONENT ASSEMBLY

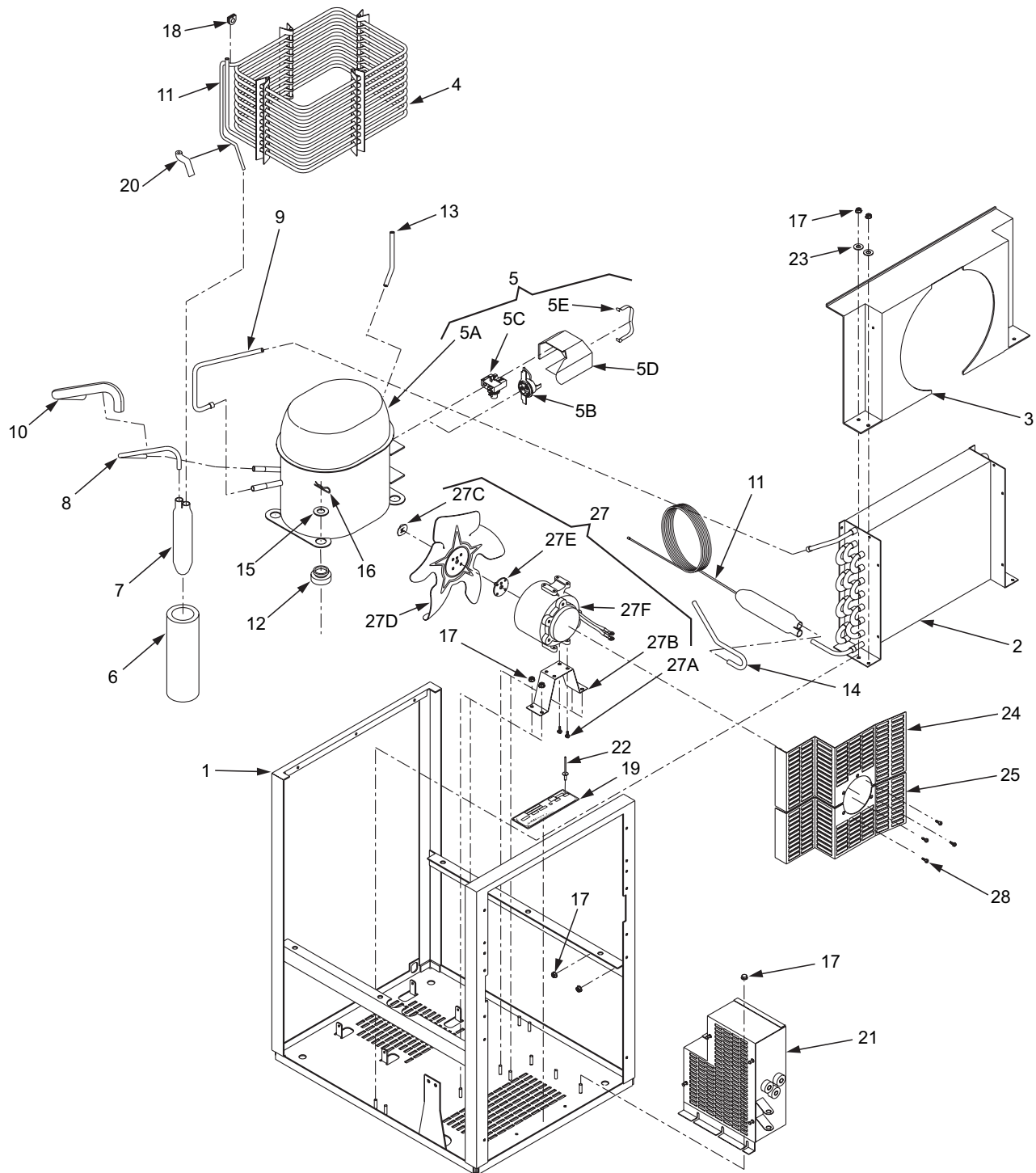


### 9.3 WATER/CONCENTRATE COMPONENT ASSEMBLY (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
			R 25	05-0011	Flare Seal Washer
1	04-0480	Screw	R 26	82-2831	Sensor Assy, Sold Out
2	50-0079	Insulation	-	17-0413/01	Solenoid Assy, Flush, LH and Middle
3	23-0147	Bracket Assy	-	01-1010	Connector, Male
4	50-0087	Insulation Front	-	17-0077	Solenoid
5	82-0881	Check Valve (w/Tube)	-	01-0818	Tee
R 5A	08-0047	Tube, Flush	-	04-0237	Screw
5B	08-0050	Tube, Concentrate	-	51-0290	Bracket
6	82-2360	Solenoid Assy	-	17-0412/01	Solenoid Assy, Flush, RH
6A	01-1010	Connector, Male	-	01-1010	Connector, Male
6B	17-0077	Solenoid	-	17-0077	Solenoid
6C	01-0821	Elbow	-	01-0821	Elbow
6D	04-0477	Screw	-	04-0237	Screw
6E	08-0036	Tube	-	51-0290	Bracket
6F	01-0818	Tee	-	82-0189	Solenoid Kit, 100 M.O.P.D.
6G	01-0798	Nut	-	12-0055	Solenoid Coil
6H	04-0237	Screw	-	05-0379	Plastic Ferrule
6I	51-0290	Bracket			
7	82-0883	Drain Assy			
7A	08-0100	Tube			
7B	01-0450	Tube Support			
7C	01-0492	Fitting			
8	52-0145	Sensor Sub-Assy			
9	02-0089	O-Ring			
10	07-0212	Bracket			
R 11	17-0076/01	Solenoid Assy			
12	47-0121	Tube			
13	01-0797	Nut			
14	47-0120	Tube			
15	04-0220	Nut			
16	04-0477	Screw			
17	82-0235	Tank Assy			
18	50-0086	Insulation, Left			
19	50-0084	Insulation, Back			
20	50-0085	Insulation, Right			
21	17-0408	Vacuum Breaker Assy			
21A	01-0789	Cap			
21B	02-0005	O-Ring			
21C	02-0110	Umbrella Check Valve			
21D	48-0059	Vacuum Breaker			
22	23-0184/01	Cage Assy			
22A	47-0124	Water Coil, Left			
22B	47-0125	Water Coil, Right			
22C	23-0146	Cage Sub-Assy			
22D	01-1012	Nut			
R 23	17-0411	Check Valve Assy			
R 23A	05-0158	Cap			
R 23B	02-0089	O-Ring			
R 23C	05-0168	Body Fitting			
R 23D	02-0115	O-Ring			
R 23E	14-0004	Ball			
R 23F	02-0103	O-Ring			
R 24	01-0802	Elbow Adaptor			

R in margin indicates new or revised material

## 9.4 REFRIGERATION ASSEMBLY

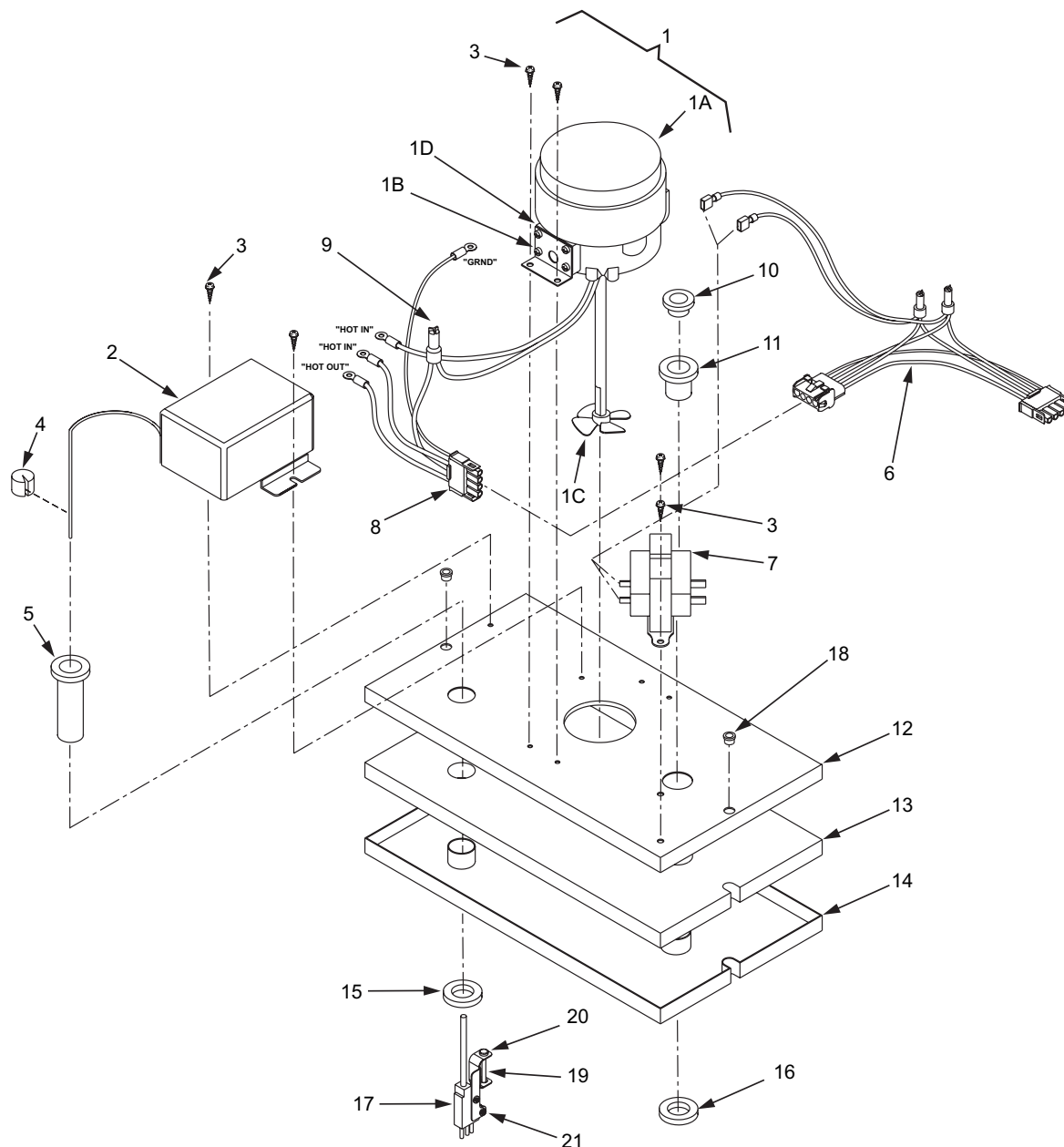


## 9.4 REFRIGERATION ASSEMBLY (CONTINUED)

<b>ITEM</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>
1	23-0143	Frame Weld Assy
<b>R</b> 2	23-0141	Condenser Assy
3	05-0204	Shroud, Fan
4	23-0145/01	Evaporator Assy
5	83-0033	Compressor Assy
5A	83-0033-01	Compressor, 115V/60Hz
5B	12-0223	Overload, 115V/60Hz
5C	12-0005	Relay, 115V/60Hz
5D	13-0066	Terminal Cover
5E	03-0040	Bale Strap
6	50-0028	Boot
7	51-0061	Accumulator
8	47-0130	Tube, Suction
9	47-0667	Tube, High Side
10	50-0082	Insulation
11	23-0982	Dryer/Capillary Assy
12	02-0114	Grommet
13	47-0129	Tube, Process
14	47-0030	Tube, Process
15	04-0537	Washer
16	03-0150	Clip
17	04-0297	Nut
18	02-0094	Grommet, Horseshoe
19	06-0824/04	Nameplate
20	50-0083	Insulation
21	52-0379	Transformer Cabinet Assy, 115V/60Hz
22	04-0072	Pop Rivet
23	04-0147	Washer
24	30-0133	Fan Guard, Upper
25	30-0134	Fan Guard, Lower
26	04-0059	Screw
27	52-0132	Fan Motor Assy
27A	04-0059	Screw
27B	30-6474	Bracket
27C	04-0060	Nut
27D	07-0231	Fan Blade
27E	02-0413	Silencer
27F	91-0007	Fan Motor, 115V/60Hz
28	04-0059	Screw

**R** in margin indicates new or revised material

## 9.5 AGITATOR DECK ASSEMBLY

[illegible]

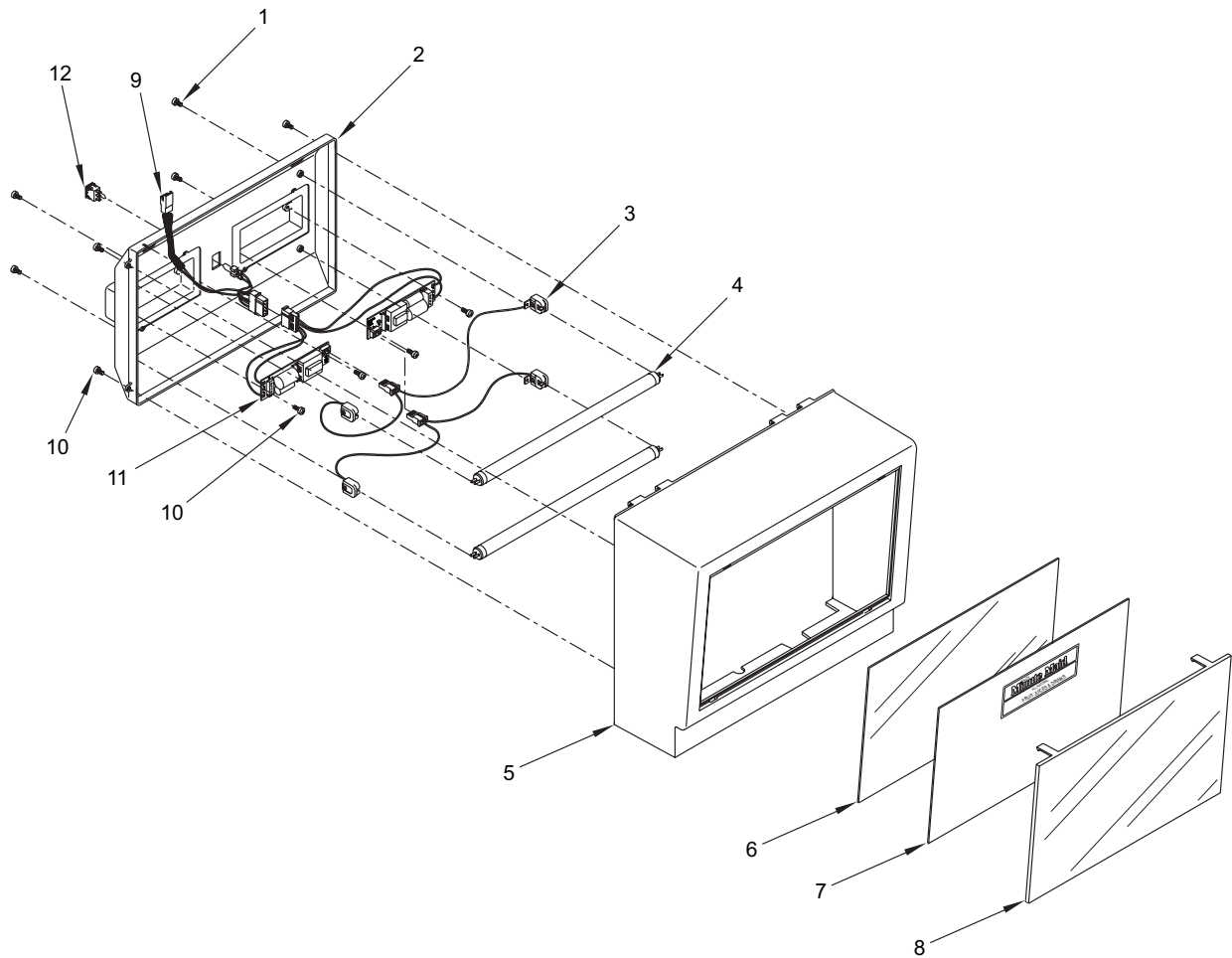
1	52-0369	Agitator Motor Assy
<b>R</b> 1A	91-0006	Agitator Motor, 115V/60Hz
1B	04-0059	Screw, 8 - 36 x 0.375
1C	05-0377	Propeller
1D	30-5113/01	Bracket
-	02-0032	Washer, Rubber (Agitator Motor Shaft)
2	52-1882	Control, Ice Bank
3	04-0061	Screw, 8 - 18 x 0.500
4	02-0041	Seal
5	05-1952	Sleeve
6	52-1560	Harness, Jumper
7	25-0060	Transformer, 115V/60Hz
8	52-0155	Harness Assy
9	11-0051	Splice, Wire

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1000	1000
2	2000	2000
3	3000	3000
4	4000	4000
5	5000	5000
6	6000	6000
7	7000	7000
8	8000	8000
9	9000	9000
10	10000	10000

10	04-0062	Plug, Fillcap
11	05-0032	Sleeve
12	51-0288/01	Deck Plate
13	50-0080/03	Insulation
14	05-0202/02	Cover, Deck Plate
15	05-0140	Retainer, 1.000 x 0.710
16	05-0141	Retainer, 1.165 x 0.845
17	52-1897	Probe Assy
18	13-0094	Bushing
19	30-8241	Bracket, Probe
20	04-1261	Screw, 6 - 32 x 1.375
21	04-0394	Screw, 6 - 32 x 0.500

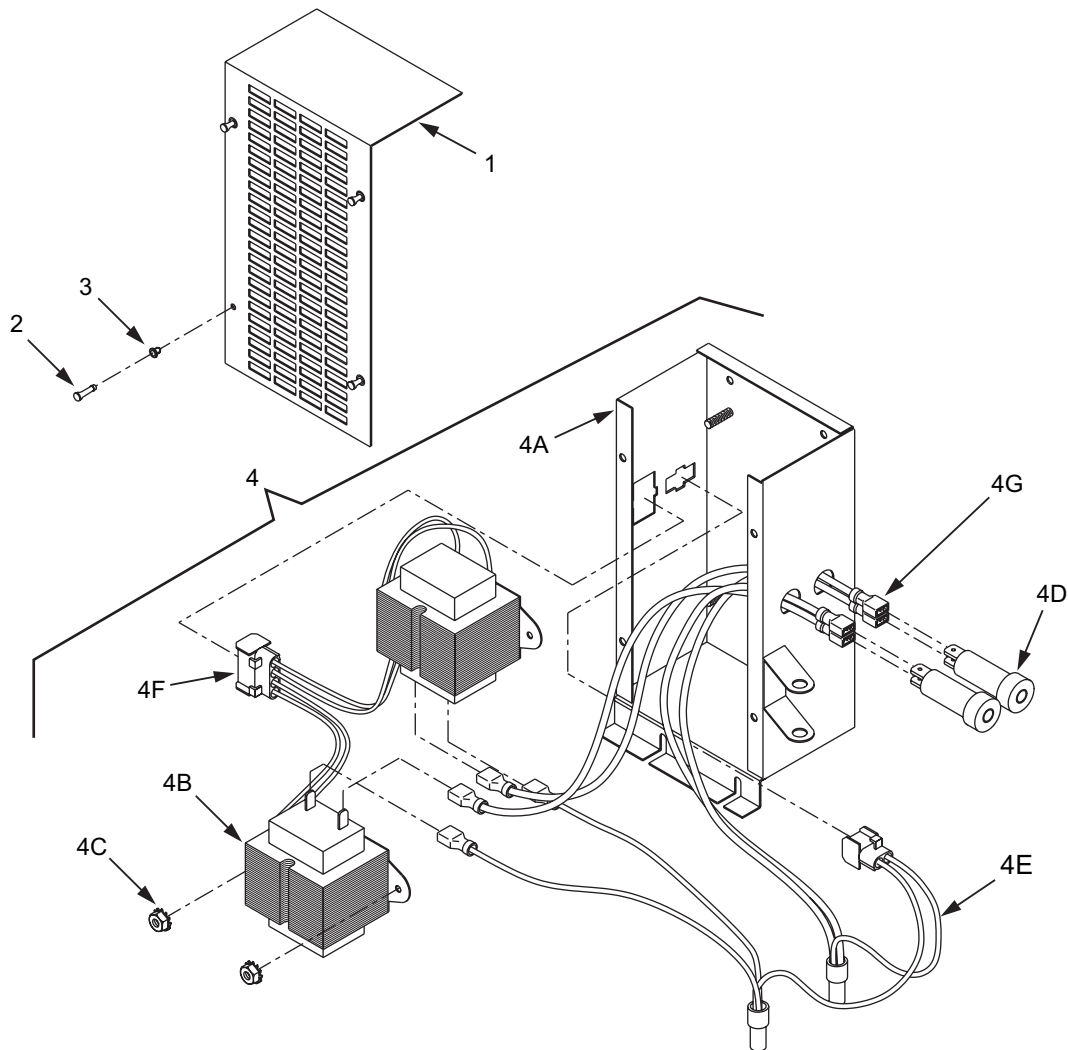
**R** in margin indicates new or revised material

## 9.6 LIGHTED FRONT COVER ASSEMBLY, PN 82-1782



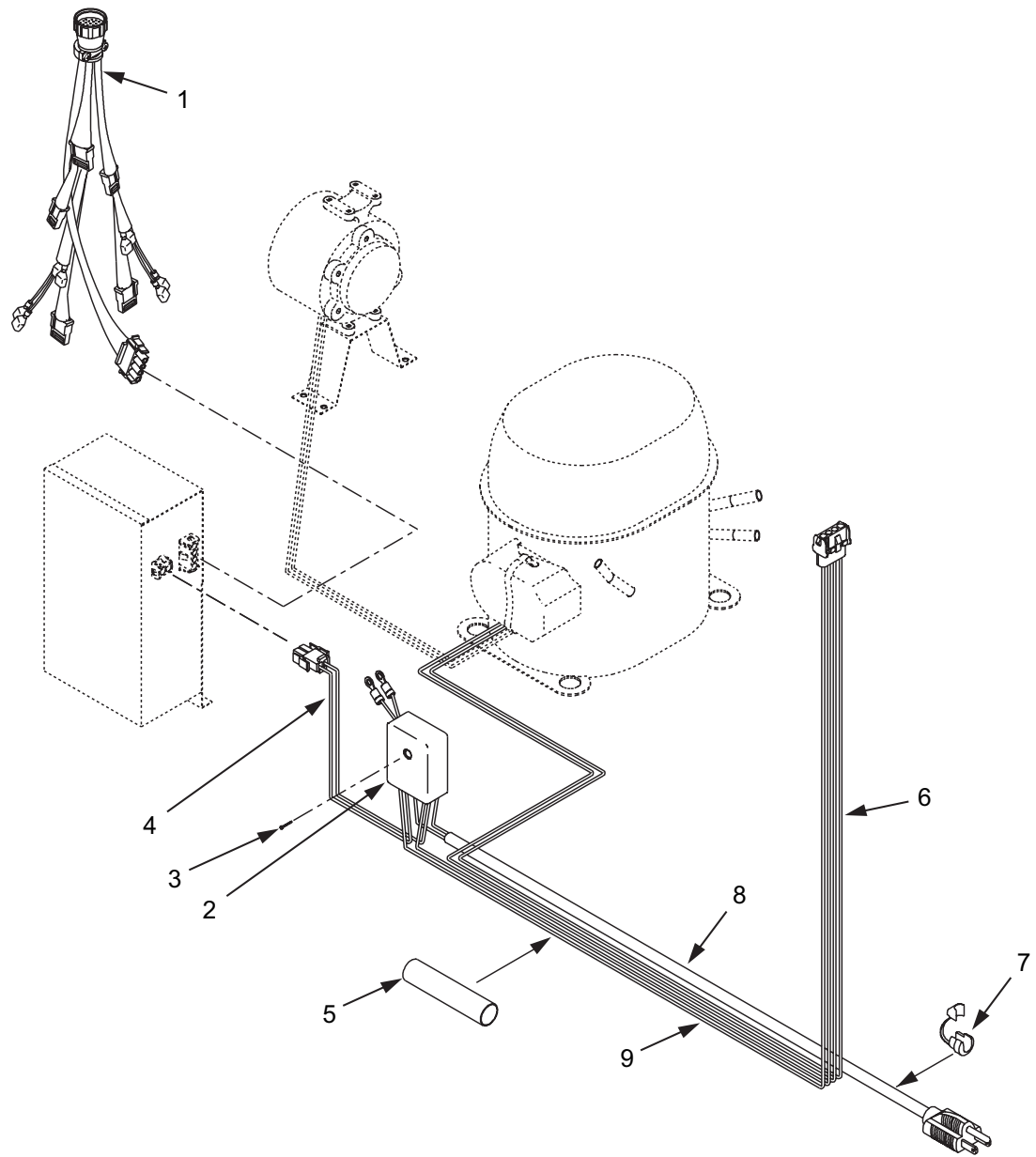
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	04-0407	Screw, 6 - 32 x 0.375
2	05-1165	Reflector, Front, Cover, OJ
3	52-1692	Harness, Wiring, Lamp
4	12-0047/02	Fluorescent, Bulb
5	82-1779	Sub Assy, Lighted Front Cover
6	27-0041	Lens, Inner, OJ
7	06-1238	Graphics, Lighted Front Cover
8	05-1164	Lens, Front Cover, OJ
9	52-1694	Harness, Wiring, Jumper
10	04-0269	Screw, 8 - 16 x 0.375
11	52-1691	PCB Assy, Lamp Driver, Lg. Fr.
12	12-0230	Switch, SPST, Rocker

## 9.7 TRANSFORMER BOX ASSEMBLY



ITEM	PART NO.	DESCRIPTION
1	30-0129	Cover, Transformer Box
2	04-0184	Plunger
3	02-0102	Grommet
4	52-0381	Transformer Cabinet Sub-Assy, Complete, 115V/60Hz
4A	82-1696	Wrapper, Transformer Box
4B	25-0011	Transformer Assy, 115V/60Hz
4C	04-0297	Nut
4D	11-0066	Circuit Breaker
4E	52-0383	Harness Assy, 115V/60Hz
4F	11-0029	Connector
4G	52-0385	Lead Assy

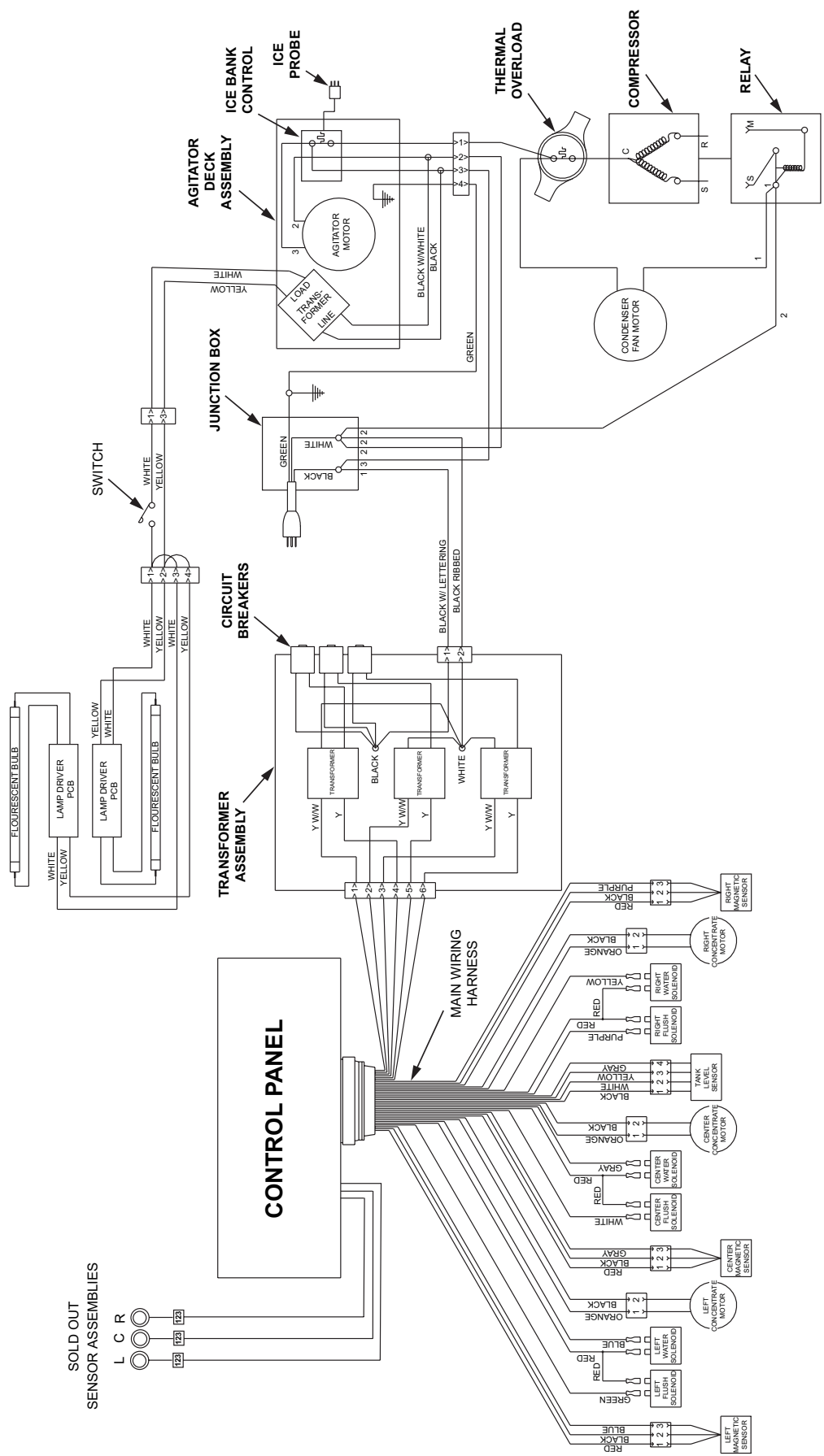
## 9.8 WIRING CONNECTIONS



ITEM	PART NO.	DESCRIPTION
1	52-0204	Main Wiring Harness
2	54-0062	Junction Block
3	04-0070	Screw
4	52-0151	Harness Assembly
5	88-0025	Sleeve
6	52-0152	Harness Assy
7	13-0025	Strain Relief
8	52-0005	Power Cord Assy
9	52-0149	Lead Assy



9.9 WIRING DIAGRAM



*(Continued from previous page)*

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